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CROSS-CULTURAL CONSTRUCTIONS OF SELF: AMERICAN AND MEXICAN COLLEGE STUDENTS

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CROSS-CULTURAL CONSTRUCTIONS OF SELF: AMERICAN AND MEXICAN COLLEGE STUDENTS

by

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Dedication

A mi papá, quién hubiera estado muy orgulloso al leer estas páginas. Papá, al escribir estas líneas cierro un círculo, pero empiezo otro. Voy a llevar tus enseñanzas siempre conmigo para caminar derecha ante la incertidumbre. Te extraño infinitamente.

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Cross-Cultural Constructions of Self:
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There are two general goals that personality researchers seek to accomplish. The first goal is to define domains that comprise the thousands of personal characteristics that make a person unique. And the second is to examine the generalizability of dimensions across cultures and languages, that is, to observe whether personality domains are universal or culture-specific. Following the steps of personality psychologists the first goal of this dissertation was to define dimensions of personality of Americans and Mexicans, and the second was to observe if dimensions were equivalent or unique across these two cultures. Typically personality researchers, in order to identify the most relevant aspects of human personality, have turned to a questionnaire method whereby people rate themselves along dimensions of traits most often described in natural language. These trait terms are derived from various dictionaries within the researchers' culture. Multiple ratings are then factor analyzed yielding a smaller group of broad traits

that then serve to define the culture's primary personality dimensions. In this investigation, personality terms were culled from open-ended personality descriptions. Relying on a new text analytic procedure called the meaning extraction method, it was possible to define dimensions of personality in Americans and Mexicans. The factor-analytically derived results showed that there were seven relevant dimensions of personality for Americans and six dimensions for Mexicans. Using qualitative and quantitative analyses it was possible to observe which dimensions were equivalent and which dimensions were unique to each culture. Specifically, for both Americans and Mexicans, the most important dimensions were Sociability, Values, Hobbies/Activities, and Emotionality. Three dimensions were unique to Americans (i.e., Fun, Existentialism, and College Experience), and two for the Mexicans (Relationships and Simpatía). Other analyses were done to explore the universality and uniqueness of the dimensions. For example, dimensions were correlated with self-reports that measure dimensions well-established by personality researchers. The challenge of establishing dimensions across cultures and languages are discussed, along with the limitations of the approach.

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Chapter 1: Introduction

LeVine (1973/1982) suggests that a good way to start understanding the world of personality and culture is to become an observer and have cross-cultural experiences. I am a Mexican who grew up in Mexico, but have been living in the United States (U.S.) for the past 5 years. Because I have been going back and forth from Mexico to the U.S., it has become apparent to me that each culture has characteristic behaviors, attitudes, beliefs, and traits. My experiences lead me to believe that Mexicans like to please people, be kind, and agreeable; they are optimistic, religious, and they don't worry about the future; they like to spend time with family and friends. In contrast, Americans work hard to get what they want; they are assertive, competitive, and future oriented; they enjoy their privacy and value their personal space; they like to have control over their lives. Of course, both Americans and Mexicans have some degree of agreeableness, assertiveness, sociability, religiousness; however, there are some aspects that seem to be more salient in one culture than in the other, and there are some aspects that seem to be unique within a culture.

Beyond people's beliefs or stereotypes about cultures, are there really different personality traits of Americans and Mexicans? To what degree do both cultures have the same personalities and to what degree do they differ? How can all the personality characteristics that describe the Americans and Mexicans be organized in comprehensive domains? These questions have captivated personality psychologists for many years. Indeed, there are two fundamental goals for personality researchers: The first one is to define domains that comprise the thousands of personal characteristics that make a person unique, that is, to define the taxonomy of personality. And the second is to examine the

generalizability of taxonomies across cultures and languages, that is, to observe whether personality domains are universal or culture-specific.

Following the steps of personality psychologists the first goal of this dissertation is to define the taxonomy of personality of Americans and Mexicans, and the second is to observe if dimensions are equivalent or unique across these two cultures. Typically personality researchers, in order to identify the most relevant aspects of human personality, have turned to a questionnaire method whereby people rate themselves along dimensions of traits most often described in natural language. This method, called the Lexical Approach, uses personality trait terms derived from various dictionaries within the researchers' culture. People within the culture then rate themselves along each of the lexical dimensions. These multiple ratings are then factor analyzed yielding a smaller group of broad traits that then serve to define the culture's primary personality dimensions.

In this investigation the most important representations of personality in language are explored; however, personality terms were culled from open-ended personality descriptions. Thus, this study focuses on analyzing how Americans and Mexicans construct their personalities. Relying on a new text analytic procedure called meaning extraction; it was possible to see which groups of self-defining words cluster together. Instead of trusting people's self-ratings along previous culturally-defined categories of who they are, the goal of this study was to determine the ways individuals naturally construct their own personalities. How Americans construct their personalities? How Mexicans construct their personalities? Do Americans and Mexicans have similar construction of themselves, or do they differ?

In the following sections the most popular taxonomies of personalities developed so far, and how these taxonomies have been tested across cultures and languages are discussed. Although the studies that are discussed have used a different lexical-approach than the one used in this study, they are informative and relevant. Finally, a new statistical technique, called the meaning extraction method, is described in detail wherein the underlying meanings or themes of open-ended essays can be extracted using factor analyses. Since this study was conducted with an English- and Spanish-speaking population, the discussion is based on studies done in these two language-cultures. This will clarify and simplify the presentation.

Why Study the Taxonomy of Personality in Spanish-Speaking Cultures?

It is well known that most studies are conducted in developed industrialized countries (e.g., the U.S.), and that there is an increasing necessity of research in developing countries (e.g., Mexico). Indeed, Lee, McCauley, and Draguns (1999) provide evidence that in the *Journal of Cross-Cultural Psychology,* of 183 publications in the 1990's about 15% accounted for personality and culture, and only 2 represented a Latin-American country (i.e., Mexico). I performed a search for publications of the 2000's, using the same criteria as Lee and colleagues, and of a total of 259 publications, 24% of the articles were devoted to personality and culture, but again, only 2 represented Spanish-speaking cultures (i.e., Mexico and Chile).

Second, why study the U.S. and Mexico? Perhaps the most compelling reason is that an impressive wave of immigration is occurring with over 500,000 Mexicans moving to the United States each year (U.S., Department of Homeland Security, 2004). Within Texas, for example 35% of the population is Hispanic (U.S. Census, 2004). This is an

unprecedented time in American history where these two cultures with different linguistic histories are meeting and in the process of acculturating to one another. The current study provides the opportunity to view personality among traditional samples of people from Mexico and the U.S. so in the future, the personality of people who are at the intersection of these two cultures can be better understood.

A third reason to focus in these two language cultures is because the most popular taxonomies that have been developed from the English language have also been studied in Spanish-speaking cultures. This will help to inform how the resulting dimensions from this study parallel the dimensions derived by means of other methods.

The fourth motive to study personality in English vs. Spanish-speaking cultures is because each language-culture is considered to have different self-construals (i.e., interdependent self vs. independent self, Markus & Kitayama, 1991). This cultural difference offers a good discussion for the universality of personality traits in two worlds with different self-views. Furthermore, it allows searching for culture-specific traits that might be related to different self-construals.

Chapter 2: Literature Review

THE TAXONOMY OF PERSONALITY

As early as 1936, Allport and Odbert (1936) initiated the identification of personality descriptors in the English language. They extracted a list of personality terms from a 1925 edition of *Webster's New International Dictionary,* and the criteria they used to select terms were whether words were able to distinguish the behavior of one person from that of another. The final list contained 17,953 personality terms. Later Norman (1967) reduced the list by setting exclusion criteria based on the consensus of four judges. The exclusions included: 1) evaluative terms and quantifiers; 2) ambiguous and vague terms; 3) obscure and little known terms; and 4) physical dispositions and conditions (in John, 1990). Norman's new updated list included 8,081 personality terms that were categorized into three classes: 1) stable traits, 2) temporary states and activities, 3) social evaluations. The list of terms included in the class of stable traits has provided the foundation for most contemporary taxonomies in the English language (for a review see John, 1990; and Goldberg, 1982). The list was further reduced statistically by performing cluster analyses on self- and peer-ratings of the terms. Finally, researchers searched for the taxonomy of personality by performing factor analyses to variants of Norman's list.

The most reliable orthogonal factor structure derived from the lexical approach across various word lists is a set of five basic dimensions. These dimensions have been referred as the Big Five (Goldberg, 1981) because each dimension is broad, and it summarizes several more specific facets (e.g., Sociability), which in turn, subsume a large number of even more specific traits (e.g., talkative, outgoing). The most common

labels used to refer to the Big Five are: (I) Extraversion, (II) Agreeableness, (III) Conscientiousness, (IV) Emotional Stability or Neuroticism, (V) and Intellect or Openness to Experience (Goldberg, 1990).

Further support for the Big Five came from ratings on attribute statements instead of single adjectives. This led to the development of personality questionnaires and to the today's well established Big Five framework or Five Factor Model (McCrae & Costa, 1996). Examples of self-report personality inventories that capture the Big Five are the NEO-PI-R (Costa & McCrae, 1992), the Big Five Inventory (BFI; John & Srivastava, 1999), and the Ten Item Personality Inventory (TIPI; Gosling, Rentfrow, & Swann, 2003). Factor analyses from the lexical approach and the questionnaire approach provide evidence that the Big Five dimensions represent the broadest and most basic way to systematize personality terms of people from the U.S.. However, this argument has been challenged (Benet & Waller, 1995; Chung & Pennebaker, in press; Tellegen & Waller, 1987).

Criticisms to the Lexical Approach

One of the most common criticisms of the lexical approach is the criteria to select personality terms. Researchers debate on whether to include only adjectives or also nouns, verbs, and adverbs (Chung & Pennebaker, in press; De Raad & Hoskens, 1990), or on whether the taxonomy should focus on stable traits or also on state terms and social evaluations (Benet & Waller, 1995; Waller & Zavala, 1993). Accordingly, Waller and Zavala (1993) point out that state and evaluative terms constitute an important part of the taxonomy of personality. They suggested that if an unrestrictive selection of terms is done, some evaluative terms might constitute other dimensions of personality that cannot

fit in the Big Five dimensions. Thus, a lexical study searching for those dimensions was conducted.

Tellegen and Waller (1987; summarized also by Benet & Waller, 1995) selected 400 personality descriptors from the *American Heritage Dictionary of the English Language* (1985) using a non-restrictive stratified-sampling method (i.e., selecting the first personality descriptor from a dictionary every X number of pages). Factor analyses of self-ratings of these descriptors revealed a 7 factor solution. The authors named these factors the Big Seven, because five of the factors resembled the Big Five. These factors were labeled as Positive Emotionality, Negative Emotionality, Conscientiousness, Agreeableness, and Conventionality, and they represented Extraversion, Neuroticism, Conscientiousness, Agreeableness, and Openness, from the Big Five Factors, respectively. The two remaining factors characterized self-evaluation traits which they named Positive Valence (e.g., outstanding, excellent, impressive, flawless) and Negative Valence (e.g., cruel, wicked, vicious, depraved). Later, Tellegen, Grove, and Waller (1991) developed The Inventory of Personal Characteristics (IPC-7), a 161-item scale to tap the Big Seven. Self- and peer-ratings of a large sample of twins and twin family members provided supporting evidence for the Big Seven.

Another particularly relevant criticism of the dictionary-based lexical studies is that it defines taxonomies according to a set of adjectives selected by researchers, and these adjectives are imposed onto the people who are completing the questionnaires. As long as the researchers and research participants share the same culture, this method is not a severe problem. However, the degree to which participants differ from typical students in Oregon, Berkeley, Minneapolis, and other locales in the 1970s and 1980s

when the original trait measures were created can be of concern. The real problem, of course, is transporting pre-defined trait dimensions to other cultures. Although the same pattern of results may emerge with the same questionnaires that were created in the U.S., these may not have been the core dimensions that would have been identified if the original trait-defining procedures had been undertaken in the other cultures. In short, the method does not allow identifying what are the salient dimensions along which lay people would naturally classify their attributes, traits, and behaviors (Chung & Pennebaker, in press).

Conclusion

The Big Five framework has been well-established in the literature; however, according to Waller and colleagues (Benet & Waller, 1995; Tallegen & Waller, 1987; Waller, 1999; Waller & Zavala, 1993) the Big Seven constitutes a broader model of the personality of English-speaking Americans. To develop the Big Seven model no exclusion criteria were implemented, therefore, it was possible to go beyond the boundaries set-up by the restrictive method that led to the Big Five. Nonetheless, it is important to note that no matter the method used to select personality descriptors from a dictionary, five robust underlying factors seem to always be present in people from the U.S.. Are these five dimensions also representative of the personality of people from other cultures and languages? Or are these factors culture-specific?

THE UNIVERSALITY OF PERSONALITY

Personality researchers define personality traits as stable, pervasive, and biologically based characteristics that are central definers of a person (in McCrae, 2000). Accordingly, trait researchers state that dispositions and traits are universal and that the

well-established Big Five should emerge in all languages and cultures. For example, McCrae and Costa's (1996) model of personality states that the Big Five factors are basic biological tendencies and that these factors are independently shaped by experience and culture. In McCrae's (2000) words "Culture is not simply another independent variable that may predict some proportion of the variance in personality traits; it is instead a shared meaning system without which such things as values, beliefs or identities could not exist. Five-Factor theory merely adds that values, beliefs, and identities are not personality traits, although they are influenced by, and thus indicative of, such traits" (p. 15).

In short, trait psychologists propose that the Big Five dimensions are universal. However, researchers have questioned the cross-cultural or cross-language generality of the Big Five model (Ashton et al., 2004; Benet & Waller, 1995; De Raad, Perugini, Hrebícková, & Szarota, 1998). One possible source of the lack of generality of the Big Five is the different research approaches trait psychologists have used. For example, when researches rely on translation of questionnaires (i.e., transcultural approach, McCrae, 2000), replication of the Big Five across languages and cultures has been found (e.g., McCrae & Costa, 1997). Nonetheless, if researchers extract personality terms from dictionaries in the language of interest (i.e., intracultural approach, McCrae, 2000) some dimensions emerge that parallel the Big Five, but others appear to be unique, and still others are difficult to compare with the Big Five. Next, each of these approaches is defined, studies done in Spanish-speaking cultures are presented, and limitations of each approach are discussed.

Transcultural Approach to Study the Universality of the Big Five

The transcultural approach seeks to answer questions such as can the same personality dimensions be found across cultures? Are traits structured the same way in different cultures? In order to answer these questions, assessments have typically been developed in the U.S. and then translated to test the cross-cultural and cross-linguistic robustness in other cultures (Brislin, 1976). This methodology is transcultural, because researchers transport a theory that has been developed in a culture (typically in the U.S.) into other cultures (e.g., Mexico) by means of translation of questionnaires. The most widely used personality questionnaires that tap the Big Five and that have been tested in Spanish-speaking cultures are: The NEO-PI-R (Costa & McCrae, 1992) and the Big Five Inventory (BFI, John, 1990; John & Srivastava, 1999).

Paul Costa and Robert McCrae and have been the leaders in the study of personality and culture using a transcultural approach. They developed the 240 item NEO-PI-R scale which assesses the Big Five dimensions in terms of six specific facets per factor (Costa & McCrae, 1992). Costa and McCrae have shown, in collaboration with colleagues around the world, that there is a possible universality of the Big Five in several cultures and languages (e.g., McCrae & Costa, 1997; McCrae, Costa, del Pilar, Rolland, & Parker, 1998). Regarding the replication of the Big Five in Spanish-speaking cultures using the NEO-PI-R, two unpublished investigations show the Big Five generalizes in Peru (Cassaretto, 1999, in McCrae, 2001) and in Spain (Avia, Sanz, & Sanchez-Bernados, 1999, in McCrae, 2001), and one published study in Mexico (Ortiz et al., in press), and two published studies in Spain (Aluja, García, & García, 2002, 2003). In addition, Benet-Martínez and John (1998) demonstrated the Big Five taxonomy of the

short version of the NEO-PI-R (NEO-FFI) in a Spanish-English bilingual sample living in the United States.

The BFI was developed by Oliver John with the intent of creating a short instrument that would assess the Big Five, when there is no need for more differentiated measurement of individual facets (John, 1990; John & Srivastava, 1999). The final version is a 44-item questionnaire which has good psychometric properties and has been proven to be reliable in other cultures and languages (Lang, Lüdtke, & Asendorpf, 2001; Worrell & Cross, 2004). Benet-Martínez in collaboration with John (1998) tested the cross-cultural and cross-language validity of the Spanish BFI. In three studies they demonstrated that the Big Five taxonomy emerged in Spain, and in two different samples of Latin bilinguals living in the U.S.. Furthermore, Rodríguez and Church (2003) provided evidence of the Big Five structure validity in Mexico. In short, both the NEO-PI-R and the BFI provide evidence that that there is cross-cultural generalizability of the Big Five in Spanish-speaking countries.

Regarding transcultural validity of the Big Seven, there is one study testing its robustness in a Spanish-speaking culture. Specifically, Benet and Waller (1995) translated the IPC-7 (Tellegen et al., 1991) into Spanish and tested its generality and validity in a large sample of university students in Spain. The results showed that although minor differences in factor structures were found, a seven factor solution also emerged in Spain. Thus suggesting that in addition to the well-known Big Five dimensions, the Positive and Negative Valence dimensions might be also universal.

Limitations of the Transcultural Approach

Even if the transcultural approach is highly efficient and economical to study the universality of the Big Five, it has two important limitations: The first one is that the method runs into the usual problems of using self-reports in cross-cultural research (e.g., translation of the questionnaires and response biases). The second limitation is that since the method imposes theories that have been developed in the U.S. onto other cultures, it does not allow searching for personality dimensions that might be relevant or unique within cultures.

Translation of questionnaires has been one of the biggest challenges in cross-cultural research. For decades researchers have been developing several methods for translation quality-checks (see Brislin, 1980; van de Vijver & Leung, 1997a, 1997b). Although these methods are effective at improving translation accuracy, there is evidence suggesting that merely the language of the questionnaire can bring out different nuances of self-views, thoughts and feelings on behalf of the individuals who complete the questionnaire (Bond & Yang, 1982; Ramírez-Esparza, Gosling, Benet-Martínez, Potter, & Pennebaker, 2006; Ramírez-Esparza, Gosling, & Pennebaker, 2007; Yang & Bond, 1980). Furthermore, there is ample evidence showing that culture interacts with response-style biases (e.g., self-enhancement, Heine & Lehman, 1997; Heine & Renshaw, 2002, and the tendency to use the extremes on a likert-type scale, Hui & Triandis, 1989; Marín, Gamba, & Marín, 1992). Thus, even when a questionnaire has passed all the translation credentials, the language of the questionnaire and the cultural context in which it is completed can systematically affect self-reports.

The other limitation of the transcultural approach is that it imposes theories onto other cultures, and thus, it is not possible to capture personality dimensions that are specific of a culture (Church & Katigbak, 1988). For example, imagine that the Big Five taxonomy was created in Mexico, and that a basic dimension was called sociability. If this sociability dimension is translated into English, clearly this would likely be a reliable and valid dimension in the English language. However, by using this approach it would not be possible to define a salient facet of the Americans that is also associated to sociability: Assertiveness. In short, this methodology is incapable of capturing relevant dimensions within a culture.

Intracultural Approach to Study the Universality of the Big Five

Intracultural approach seeks to capture ideas, concepts, and behaviors that are relevant to the culture. The approach observes if intracultural traits parallel those found in other cultures, and also allows searching for unique personality expressions within cultures. The most common method used to study intracultural personality traits is the lexical approach. The study of personality dimensions using the lexical methodology has been conducted in over a dozen languages (for a review see Saucier & Goldberg, 2001). In this section, the different types of lexical studies that have been done in Spanish-speaking cultures are discussed.

Benet-Martínez and Waller (1997) used the same methodology as Tellegen and Waller (1987) to search for intracultural traits in Spain. Specifically, 299 descriptors were selected from a Spanish dictionary using a non-restrictive criteria, and the authors found that the analyses of self-reports yielded a seven-factor solution. They concluded that two factors resembled the Positive and Negative Valence of the Big Seven. However, instead

of finding affect-oriented dimensions such as Positive and Negative Emotionality, they found two culture-specific dimensions that they named Pleasantness and Engagement. The factors Temperance, Agreeableness, and Openness were similar to Conscientiousness, Agreeableness, and Conventionality, respectively from the Big Seven. However, the researchers describe that the factor Openness contained culture-specific descriptors that refer to indiscretion and garrulousness (e.g., nosy, gossiping, disclosing) that are not present in the English-lexical Big Seven.

Regarding studies in Latin-America, Rogelio Díaz-Guerrero and Rolando Díaz-Loving have been the leaders in the study of the "Mexican personality". Díaz Guerrero (1986) developed his Historical-Socio-Cultural-Premise questionnaire from sayings, proverbs, and other forms of popular communication. According to Díaz-Guerrero a cardinal factor of the Mexicans is affiliative-obedience. This factor describes Mexicans who tend to favor the idea that children should never disobey, and should always show respect toward their parents and their elder relatives. Another interesting dimension identified by Díaz-Guerrero's is "passivity" as a response to stress. This trait reflects the idea that Mexicans tend to value a peaceful, serene, calm, and tranquil mode of responding to stress (Díaz-Loving & Draguns, 1999).

Following the idea of the Historical-Socio-Cultural-Premise theory, LaRosa and Díaz-Loving (1991) started a study to define the Mexican self-concept. Their methodology was different from that used by Díaz-Guerrero (1986) and Benet-Martínez and Waller (1997). Specifically, they asked students to list adjectives that came into their minds according to 5 main categories: physical (appearance and functioning); occupational (role and functioning in any type of work); emotional (intraindividual

feelings and interpersonal interactions); social (satisfaction and dissatisfaction in social interactions); and ethical (congruence or incongruence with personal and cultural values). After selecting the adjectives with the highest frequencies and least synonymic, 30-40 adjectives resulted for each category. Subsequently, they conducted two pilot studies to derive antonyms of each adjective. The final questionnaire, which was administered to 3,000 students, was set up with pairs of adjectives using a semantic differential scale and "I am" as the stimulus. Exploratory factor analysis yielded a nine factor solution. Díaz-Guerrero, Díaz-Loving and Rodríguez de Díaz (2001) highlight that from those 9 dimensions, only three resembled the U.S. Big Five. Social Affiliative was similar to Agreeableness, Social Expressive to Extraversion and Occupational to Conscientiousness. Two factors –Emotional (e.g., happy-sad; depressed-contented) and Emotional III (e.g., impulsive-reflexive; temperamental-calm) resembled Neuroticism or Emotional Stability. The other factors were Emotional Interindividual (e.g., romantic-indifferent; affectionate-cold), Ethical (e.g., honest-dishonest; loyal-disloyal), Initiative (e.g., apathetic-dynamic; slow-fast), and Social (e.g., accessible-inaccessible; understanding-nonunderstanding).

In sum, the lexical studies done in Spain and Mexico provide partial support for the universality of the Big Five. For example, only three intracultural dimensions in Spain parallel three Big Five dimensions: Agreeableness, Conscientiousness, and Openness. In Mexico three intracultural dimensions parallel three Big Five dimensions, but not the same ones as in Spain: Agreeableness, Extraversion, and Conscientiousness. In addition, the lexical studies in Spain and in Mexico provided evidence for culture-specific dimensions. For example, the two factors that were characterized as culture-

specific constructs of the Spaniards were Pleasantness and Engagement. These factors together describe the passionate attitudes and commitment to the pleasures of life that characterize Spaniards (Benet-Martínez & Waller, 1997*).* On the other hand, Mexicans' dimensions such as Ethical and Emotional Interindividual can be said that they represent the traditional values of the Mexicans such as family, relationships, and religion (Díaz-Loving & Draguns, 1999). It is important to note that although the studies in Spain and in Mexico used a lexical approach, the Mexican-study is difficult to relate to the Spain-study and to U.S.-lexical studies. This because in the Mexican-study personality descriptors were collected in a different way, and an opposite trait method was used, instead of the typical unipolar strategy of the BFI approach.

Limitations of the Intracultural-Lexical Approach

This method has the same limitations as lexical studies done in the U.S.: Different factor structures can be found depending on the criteria to select personality terms. Furthermore, lists of adjectives are selected by researchers and imposed onto the individuals, thus it does not allow searching for personality descriptors that are relevant or meaningful to the individuals. Finally, although lexical studies done in several languages provide the strongest supporting evidence for universality, this is also its major disadvantage. For example, using lexical designs, one is able to avoid imposing theoretical frameworks onto other cultures. Thus, if intracultural personality dimensions are similar to the hypothesized universal dimensions, then this provides the strongest support for universality. Nevertheless, it is often difficult to elucidate similarities between dimensions across cultures. That is, sometimes domains emerge in one culture from which no clear parallel exists with hypothesized universal domains. Therefore,

researchers have opted for using a combined intracultural-transcultural approach (Benet-Martínez & John, 2000; Benet-Martínez & Waller, 1997; Church & Katigbak, 1988; Yang & Bond, 1990).

Combined Intracultural-Transcultural Approach to Study the Universality of the Big Five

Combined intracultural-transcultural designs observe if there are universal traits across cultures and languages, and also seek to define culture-specific traits. In order to accomplish this goal, researchers usually obtain ratings of a scale that is composed of personality descriptors derived from an intracultural approach (e.g., descriptors extracted from a dictionary in the language of interest), and they obtain ratings of transcultrual personality descriptors (e.g., from a translated version of the BFI). Then, intracultural dimensions are correlated with transcultural dimensions.

Recall that Benet-Martínez & Waller (1997), when studying the personality taxonomy in Spain, found a seven factor solution when factor analyses were performed in a list of intracultural traits culled from a dictionary. In this study, the authors also conducted a combined approach. Basically, they correlated the seven intracultural dimensions with the Spanish version of the BFI—that measures the Big Five—and with the Spanish version of the IPC-7—that measures the Big Seven. They found that four of the seven intracultural dimensions correlated with four of the imported seven counterparts (e.g., Positive Valence with Positive Valence; Negative Valence with Negative Valence; Temperance with Conscientiousness; Agreeableness with Agreeableness). Intracultural Pleasantness and Engagement did not show clear correlations with transcultural counterparts. This finding supported the idea that these

factors are culture-specific to Spaniards. Intracultural Openness did not correlate with any of the imported factors.

Correlations among the seven intracultural dimensions and the transcultural Big Five dimensions showed that intracultural Negative Valence did not correlate with any of the Big Five dimensions. Two dimensions showed a clear counterpart correlation: Agreeableness with Agreeableness and Openness with Openness. The other intracultural dimensions correlated with several Big Five dimensions or did not have a clear counterpart correlation. Due to the fact that intracultural dimensions did not correlate clearly with the BFI dimensions, Benet-Martínez and Waller (1997) concluded that the Spanish taxonomy of personality needs at least seven higher order factors and that these factors correspond with the Big Seven dimensions found in English-lexical studies.

Ortiz et al. (in press) studied the universality of the FF by performing a different type of intracultural-transcultural design. Specifically, they asked participants in Mexico to respond to 9 indigenous self-concept inventories (i.e., scales that were developed in Mexico) and to the Spanish version of the NEO-PI-R. The authors, then, performed joint factor analyses with the imported scale and the indigenous scales. They found that most of the indigenous dimensions were subsumed by the FF model. However, when they tested a seven-factor solution they found that a Family Centered Abnegation factor and an Honesty-Humility factor. They argued that the Family factor represents more family values than personality traits. Furthermore, they also concluded that the Honesty-Humility factor is not culture-specific of Mexico because it has been found in other studies (e.g., Ashton et al., 2004). In sum, this study shows that the Big Five emerges in Mexico when using indigenous dimensions; however, it is possible that if other imported

questionnaires (e.g., IPC-7) would have been tested jointly with the indigenous personality questionnaires also a seven factor solution would have been comprehensive.

Limitations of combined intracultural-transcultural approach

Although combined designs help to elucidate how intracultural dimensions mirror taxonomies of personality that have been extensively researched, they are not exempt of the methodological problems that have been discussed thus far. For example, the intracultural part is not exempt of the problems of selecting personality terms from dictionaries, and the fact that adjectives are selected by researchers and imposed onto individuals. The transcultural part is not exempt of the problems in cross-cultural research, such as translation of questionnaires and response-biases.

Conclusion

The search for finding cross-cultural and cross-language personality universals has been a challenging endeavor. The studies reviewed in this section indicate that hypothesized universal dimensions of personality partially replicate in other cultures. Does this mean that much of our personality is our culture? Are personality and culture phenomena creating each other, or "mutually constitutive" (Miller, 1997; Shweder & Sullivan, 1990)? In other words, perhaps personality and culture are difficult to separate thereby making universals difficult to define. Clearly, there are universal dimensions to personality, but the expression of these dimensions are so different across cultures that the dictionary-based lexical studies cannot capture. For example, for both Americans and Mexicans Extraversion is a basic dimension; however, in each culture this trait is expressed differently. Extraversion for Americans is about being assertive, self-confident, outgoing, whereas in Mexico Extraversion is about being enthusiastic, funny, talking to

others, laughing, not being alone (Ramírez-Esparza, Mehl, Bermúdez, & Pennebaker, 2007).

A good way to answer these theoretical questions is by studying the taxonomy of personality going beyond terms culled from dictionaries, by observing what personality terms are indeed important or meaningful for individuals living in a culture. For example, when Mexicans describe their personality, do they mention that they don't like to be alone? When Americans describe their personality, do they mention that they are outgoing? In short, to study relevant and meaningful personality dimensions one has to capture the most salient, chronically activated self-concepts that make people who they are.

In order to capture salient self-concepts, what we need to do is: a) avoid imposing list of adjectives selected by researchers onto people, b) to collect meaningful self-descriptors for individuals living in a culture, and c) to go beyond adjectives and also collect other meaningful words that are personality descriptors such as nouns, verbs, and adverbs (Chung & Pennebaker, in press; De Raad & Hoskens, 1990). By studying personality dimensions defined by many individuals who are a part of each culture, one can observe if a) there are universal dimensions, b) universal dimensions are expressed differently across cultures, and/or c) most of the personality dimensions are intertwined with culture and language.

AUTOMATED MEANING EXTRACTION METHOD: FINDING THE TAXONOMY OF PERSONALITY IN OPEN-ENDED DESCRIPTIONS

The lexical approach assumes that the taxonomy of personality is encoded in words. From this assumption, most studies have searched for these words in dictionaries from several languages (e.g., English, German, Polish, Dutch, Italian; for a review see

Saucier & Goldberg, 2001; in Spain, Benet-Martínez & Waller, 1997). However, researchers have not typically examined naturally-occurring words that are used at high frequencies within cultures. Recently, Chung and Pennebaker (in press) proposed a way to search for these words in open-ended personality descriptions from individuals. By using this approach, they sought to answer questions such as: What is the structure of personality that results when people describe their personality? What can everyday word use about personality tell us about the taxonomy of personality? What are the salient, chronically activated dimensions of personality?

Chung and Pennebaker (in press) supported the idea that the approach to study personality can be done by considering the individual. This assumption is consistent with George Kelly's Constructivist Approach to personality. In Kelly's theory of personal constructs (1955), he proposed that individuals construct their interpretations of the world based on past unique experiences, and use these schemas to guide them through the world. Accordingly, Chung and Pennebaker anticipated that by analyzing how words systematically occur in everyday language, one can capture the most salient and meaningful dimensions of personality that make an individual unique. In short, just like the lexical approach, Chung and Pennebaker searched for the taxonomy of personality in language. However, they focused their search on words people use when describing themselves. Clearly, searching for meaningful words in open-ended descriptions of thousands of people is a potentially overwhelming task. However, with the recent developments in automated tools for analyzing language, the possibilities of efficient analyses of self-descriptions descriptions are attainable. Chung and Pennebaker labeled this approach the *Automated Meaning Extraction Method*.

The meaning extraction method uses automated text analytic tools in order to identify the most commonly used personality descriptors in self-descriptions, and to determine how these descriptors co-occur in a given text. To appreciate how the meaning extraction method works, imagine that 500 American students are asked to describe who they are. Let's assume that each personality self-description takes about 15 minutes and the average person generates about 300 words. Although this task will generate 150,000 words, there probably will only be about 3,000 different words used. Once the standard function words are removed (e.g., pronouns, prepositions, articles, auxiliary verbs) as well as words not used by at least 3% of the participants, perhaps only 100 different words will remain. Imagine now that we now go back through each of the 500 essays and determine if each essay either did (coded 1) or did not (coded 0) use each of the 100 words. Indeed, this results in a matrix of 500 essays or participants (down) and 100 words (across).

Our 500 x 100 matrix of 1's and 0's can now be subjected to traditional factor analysis. Chung and Pennebaker have found that virtually any method produces comparable results. For the purposes of this project, on principle components with varimax rotation were done. The number of factors to emerge is investigator-defined using the scree plot method. Based on previous work, the number of dimensions will probably range between 5 and 9.

One can quickly imagine the logic of this procedure. By relying on factor analyses, one can determine the degree to which any group of words tends to co-occur. Unlike a simple co-occurrence matrix; however, factor analysis tells us which words make up coherent clusters. Each word cluster, then, is essentially a meaning or theme-

based cluster. Consequently, a person who uses the word *smart* may also use words like *quick, intelligent*, *and thoughtful*. Another person may use some of the same terms as well as other synonyms. The strength of this approach is that all of these terms will likely yield a factor that we would define as intelligence.

There are two powerful advantages to this method that are particularly well-suited to cross-cultural research. First, the emergent personality dimensions are purely inductive. The words are not dependent on dictionaries, judges' ratings, or pre-defined trait dimensions created by other investigators. The method, then, avoids imposing constructs, theories or list of adjectives onto individuals. By analyzing salient and chronically activated self-concepts, the method is able to capture what is inside the individual, instead of how people perceive pre-selected adjectives as naturally cohering. Second, the method does not rely in translation. The meaning extraction method simply looks at words – a group of letters separated by blank spaces or punctuation marks. It analyzes how groups of words are statistically clustered together. Translation issues are only relevant at the <u>end</u> of the process.

Chung and Pennebaker (in press) analyzed the taxonomy of personality by extracting personality terms from over 1,000 open-ended personality descriptions from University of Texas at Austin students. First, they performed a factor analysis with the most frequent adjectives used in the descriptions, and they found 7 factors that they labeled Sociability, Evaluation, Negativity, Acceptance, Fitting In, Psychological Stability, and Maturity. Then they performed a factor analysis with the most frequent content words (i.e. adjectives, adverbs, nouns, and verbs) used in the descriptions. They

found 9 factors that they labeled as: Appearance, Education, Evaluation, Sociability, Relationships, Daily Activities, Ambition, Existentialism, and Reflection.

Chung and Pennebaker (in press) did not find clear or strong counterparts of the Big Five dimensions. This suggests that a different taxonomy of personality results when personality terms are analyzed from the individuals' perspective. However, there are some caveats from Chung and Pennebaker's study that should be highlighted, and that this study will take into consideration.

1) The authors did not include a personality inventory to measure the Big Seven dimensions. Perhaps personality dimensions from the meaning extraction method would have correlated more clearly with the Big Seven dimensions. For example, from the self-descriptions an Evaluation and a Negativity dimension emerged, thus, this could have been related to the Positive and Negative Valence dimensions from the Big Seven respectively. Thus, in this study the IPC-7 to tap the Big Seven dimensions was included.

2) The instructions the authors used to ask participants to describe their personality might have affected the use of personality terms. Specifically, Chung and Pennebaker asked participants to describe who they are while looking at themselves in a mirror. This method led some participants to focus more in physical appearance descriptions than in everyday expressions of personality. Therefore, in this study participants were asked just to describe their personality including a general definition of personality.

3) Since Chung and Pennebaker perform an exploratory study, they included the most frequent words up-to 3% of the text files. However, since the goal of this study is to capture the most reliable and salient dimensions of personality a more stringent screening

criteria to include words is used (i.e., only the most frequent words up-to 5% of the texts was selected).

4) Finally, reliability of the meaning extraction method across cultures and languages is needed. As was mentioned before one of the goals of trait psychologists is to study the extent that personality dimensions are universal or culture-specific. In other words, generalizability of personality dimension across cultures and languages is an important criterion for evaluating personality taxonomies.

Chapter 3: Study Overview

This study used a combined intracultural-transcultural design to investigate dimensions of personality within and across cultures. Intracultural dimensions were first defined in the U.S. and in Mexico by using the meaning extraction method (MEM). Then, the universality of these dimensions was assessed by correlating intracultural Mexican dimensions with intracultural American dimensions, and by correlating intracultural Mexican and American dimensions with the Five Factor Model.

DEFINING INTRACULTURAL DIMENSIONS OF PERSONALITY

The first goal of this study was to establish intracultural dimensions of personality. Specifically, how do Americans and Mexicans construct their personalities? What are the most salient, chronically activated dimensions of personality in Americans and in Mexicans? Americans and Mexicans were asked to describe their personality for 15min. Then the MEM was used to extract the most important intracultural dimensions in the U.S. and in Mexico.

From the personality self-descriptions, the most frequently-occurring content words (i.e., adjectives, adverbs, nouns, and verbs) were selected in order to define dimensions of self considering different aspects of personality (i.e., roles, family activities, interests, emotions). As previously discussed, most lexical studies have focused on self-descriptive adjectives. However, this approach has been criticized, and researchers have proposed that other parts of speech carry dispositional meaning. For example, Waller and colleagues have suggested that state terms and social evaluations should be included in taxonomies of personality (Benet & Waller, 1995; Waller & Zavala, 1993). Also other researchers have proposed that nouns, verbs and even adverbs

convey dispositional meaning (Chung & Pennebaker in press; De Raad & Hoskens, 1990; Hofstee & Van Heck, 1990). Including all content words becomes especially important when comparing dimensions across cultures. It is likely that more cultural expressions will be conveyed in other parts of speech. For instance, one can learn about Mexican and American values from nouns and verbs (*e.g., money, God, pray, family, vote, etc*.). Or from the activities they choose to mention as part of their personality (*e.g., study, parties, dance, music, sports, etc*). In sum, this study focused on the most frequent content words. Analysis including only adjectives can be found in Appendix A (for the Americans) and Appendix B (for the Mexicans).

ESTABLISHING TRANSCULTURAL DIMENSIONS OF PERSONALITY

The universality of personality constructs was analyzed. Specifically, do Americans and Mexicans construct their personalities in the same way, or do they differ? Are there culture-specific dimensions? How do intracultural dimensions relate to hypothesized universal dimensions? In order to answer these questions two approaches were performed. The first approach is called the *translation* approach. This approach consisted in translating dimensions that resulted in the U.S. into Spanish, and translating dimensions that resulted in Mexico into English. Then U.S. dimensions and translated Mexican dimensions were correlated in the English text files. Likewise, Mexican dimensions and translated U.S. dimensions were correlated it the Spanish text files. The translated approach allowed observing the degree to which dimensions are related across cultures. If correlations between intracultural U.S. dimensions with similar intracultural Mexican dimensions are high, then one could conclude that dimensions are transcultural.

The second approach was to observe if intracultural dimensions parallel hypothesized universal dimensions, the Big Five dimensions and the Big Seven dimensions were correlated with regression-based scores from the intracultural dimensions for both the Americans and the Mexicans.

EXPECTED FINDINGS

Expected Cultural Similarities

From the literature reviewed on the universality of well-established dimensions of personality in English and in Spanish speaking cultures one can expect that approximately 5-7 dimensions will result in both the U.S. and in Mexico. However, Chung and Pennebaker (in press) found 9 dimensions when analyzing content words. There are some aspects that should be considered for expected similarities. First, as Chung and Pennebaker reported, not all the dimensions of personality that emerge using the MEM parallel the Big Five dimensions. Nonetheless, recall that Chung and Pennebaker's instructions to the open-ended personality description could have biased the results. Since participants had to look at themselves in a mirror while describing them selves, they tended to focus on more superficial aspects of their personality (i.e., image, physical appearance) than on stable traits of their personality. Thus, in this study perhaps dimensions more like the Big Five will result in both cultures.

Another aspect that should be considered is that in contrast with the Big Five approach, all content words will be included in this study, which might reflect the well-established dimensions of personality. For example, it is possible that the factor Extraversion emerges in this study with adjectives such as *outgoing, social, shy, reserved*, with words reflecting situations and interactions such as *conversation, comfort, meet,*

party (see Chung & Pennebaker, in press). But, it might also be possible that the dimensions that emerge are not isomorphic to any of the Big Five.

In sum, due to the exploratory nature of this study it is difficult to hypothesize about similarities. If there are universal dimensions, the same dimensions will emerge in both cultures, regardless whether or not they mirror the Big Five.

Expected Cultural Differences

Personality and cross-cultural researchers have noted several cultural differences between Americans and Mexicans that may influence the way taxonomies are constructed across these two cultures. The individualism-collectivism dimension is one of the most widely used concepts to distinguish cross-cultural behaviors (Hofstede 1980; Triandis, 1995). In individualist cultures – where an independent self is promoted – individuals are emotionally independent from groups, families, organizations (Hofstede, 1980; Markus & Kitayama, 1991). In collectivist cultures – where an interdependent self is promoted – individuals show concern for others and feel integrated to others (Markus & Kitayama, 1991; Triandis, 1995).

The U.S. and Mexico are cultures that have been distinguished as individualist and collectivist respectively. According to Hofstede's (1980) ranking of 50 countries along the individualism-collectivism continuum, the U.S. ranked 1st and Mexico 31st. The idea that the U.S. promotes an independent self and self-reliance has been supported by cross-cultural psychologists and cultural scientists (see Markus & Kitayama, 1991; Oyserman et al., 2002). In addition, cross-cultural psychologists and ethnopsychologists have claimed that interdependence is promoted in Mexico, especially toward close family, partners, friends, and coworkers (Díaz-Guerrero, Díaz-Loving, Rodriguez de

Díaz, 2001; Shkodriani & Gibbons, 1995). Mexican ethnopsychologists have also described the Mexican culture as valuing close relationships, affiliative obedience and respect for relatives and family (Díaz-Loving & Draguns, 1999). Accordingly, one can expect that Mexicans will describe their personality mirroring their interdependent self: They may use more words related to family (*e.g., parents, brother, sister*), relationships (*e.g., love, boyfriend*), and roles (*e.g., student, daughter, sister*). On the other hand, Americans will be more likely to mirror their independent self: They might use words related to personal qualities (*e.g., strong, competitive, ambitious*), beliefs and attitudes (*e.g., education, God),* and other traits that do not relate to other people.

Simpatía is a cultural script that has been used to describe a pattern of social interaction meant to characterize Mexicans (Triandis, Marín, Lisansky, & Betancourt, 1984). A person who is *simpático* is likeable, easygoing, polite, and fun to be with, is affectionate and likes to share feelings to others. Simpatía is also associated with striving to promote harmony in relationships, by showing respect toward others, avoiding conflict, emphasizing positive behaviors and deemphasizing negative behaviors (Díaz-Loving & Draguns, 1999; Triandis et al., 1984). Also Simpatía is related "to coping with life and interpersonal relationships in a peaceful, serene, calm, and tranquil way" (Díaz-Loving & Draguns, 1999, p. 118).

Although Simpatía is a cultural script salient to Mexicans, studies using self-reports show that Mexicans score lower in Agreeableness from the Big Five than do Americans (McCrae, 2001; McCrae, Terraciano, & the 78 Members of the Personalities Profiles of Cultures Project, 2005; Ramírez-Esparza et al., 2006; Ramírez-Esparza & Mehl, 2005). Ramírez-Esparza et al. (2007) suggested that the modesty within Simpatía

accounts for these paradoxical findings by driving down scores on Mexicans' self-reports. The open-ended approach used in this study will allow individuals to freely express about their personality with less response-style bias. For example, self-reports asks directly if a person is agreeable. Ironically for Mexicans to present themselves as extremely agreeable would itself be disagreeable because it would denote arrogance. However, if the self-description approach just asks to describe their personality, then it would be disagreeable not to say that you are agreeable! In short, if this trait is so salient to Mexicans, one can expect that this dimension will be more central for the Mexicans than for the Americans, and more likely to be mentioned.

Research has demonstrated that Americans are more achievement oriented than Mexicans. For example, Madsen and Kagan (1973) found that Americans mothers chose significantly more difficult achievement goals for their children than Mexican mothers. In addition, Levine and Norenzayan (1999) found that from 31 cultures, Americans ranked 18th on the pace of life index (i.e., index derived from walking speed, postal speed and clock accuracy) and Mexicans ranked 31st. One might infer that Americans more so than Mexicans may describe their self as being more ambitious, hardworking, and with envisaged goals.

In sum, there are well-established cultural differences between Mexicans and Americans. In this study it will be possible to observe if this cultural differences influence the structure of personality.

Chapter 4: Method

PARTICIPANTS

American Participants

The American participants were students enrolled in Introductory Psychology classes at the University of Texas at Austin. They completed personality questionnaires and provided open-ended personality descriptions in exchange for class credit. A total of 606 participants completed the study. Of these, 50 were excluded from the final sample: 3 did not indicate their sex; 5 were not students; 16 indicated that they identify themselves with a culture other than American and that they had recently moved to the U.S.; 24 of the self-descriptive essays did not have a total word count of at least 75 words, suggesting that they had not taken the 15-minute self-description writing task seriously.

The final sample consisted of 560 participants (232 men and 328 women) with a mean age of 18.85 years (*SD* = 2.12). Their socioeconomic status was: 16.7% working to lower-middle class, 31.6% middle class, and 51.7% upper-middle to upper class. Their ethnic background was 59.9% non-Hispanic White, 17.2% Hispanic, 15.4% Asian, 5.1% African American, 2.0% Native Hawaiian or Pacific Islander, and .4% American Indian or Alaskan Native.

Mexican Participants

The Mexican participants were from two cities in Mexico: Mexico City and Puebla. Participants were recruited by contacting professors in different universities in Mexico City and Puebla and asking them if they could announce the study in their classes. Interested participants wrote their e-mails on a sign-up sheet. Those students received an e-mail with information about the study and a link to the webpage's study.

Other students were recruited by means of flyers passed out at the universities.[1] A total of 618 participants completed the study. Of these, 68 were not students, and 67 of the self-descriptive essays did not have a total word count of at least 75 words and so were excluded from the sample.

The final sample included 496 participants (123 men, and 373 women). Their mean age was 20.93 years (*SD* = 3.17). Students were from the National Autonomous University of Mexico (n = 174), University Autonomous of Puebla, (n = 84), University of the Americas at Puebla (n = 119), and other smaller schools/universities (n = 117). Their education was: 90.3% currently in college, 7.1% finishing highschool, and 2.6% pursuing graduate school. Their socioeconomic status was: 15.7% working-lower-middle class, 50.5% middle class, and 33.8% upper-middle to upper class. Their ethnic background was 92.9% Hispanic, 5.0% non-Hispanic white, .9% Native Hawaiian or Pacific Islander, .9% American Indian or Alaskan Native, and .4% Asian.

MEASURES

The following scales, available in both English and in Spanish were completed online: 1) a basic demographics questionnaire 2) The Big Five Inventory (BFI), and 3) The Inventory of Personality Characteristics (IPC-7). All participants provided answers for each of the questionnaires except for the IPC-7. Due to technical errors early in the study, only 371 Mexican participants responded to the IPC-7. Thus, all analyses for the IPC-7 in the Mexican sample are based on the participants who responded to the IPC-7.

[1] Unfortunately, information about the discipline of study was not asked in the demographics questionnaire. However, from information about the university of study and the date they answered the questionnaire, it was possible to know which professors invited students to participate in the study and thus, from which field of study these students were. About 55% of the participants were studying Psychology; the others were from unknown field of studies.

Demographic Questionnaire

This questionnaire asked questions about general background information (e.g., age, sex, socio-economic status, education, ethnicity, etc., see Appendix C).

Big-Five Inventory (BFI)

Both the BFI questionnaire in English (John & Srivastava, 1999) and in Spanish (Benet-Martínez & John, 1998) have 44 items with a 5-point likert scale, that ranges from 1 (*disagree strongly*) to 5 (*agree strongly*). The reliabilities for the English and Spanish version were .90 and .86, respectively, for Extraversion (8 items), .83 and .66 for Agreeableness (9 items), .81 and .79 for Conscientiousness (9items), .86 and .81 for Emotional Stability (8 items), and .81 and .78 for openness (10 items).

The Inventory of Personality Characteristics (IPC-7)

The IPC-7 in English (Tellegen et al., 1991) has 161 items with a 4-point likert scale, that ranges from 1 (disagree strongly) to 4 (agree strongly). Benet and Waller (1995, see also Benet-Martínez & Waller, 1997) tested the reliability and validity of only the 10 primary markers of each IPC-7 dimension (also see Waller, 1999), and translated and validated those 10 items into Spanish. Thus, in this study only these 10 most representative items for each of the Big Seven dimensions were used. The reliabilities for the English and Spanish version were .92 and .87, respectively, for Positive Emotionality, .84 and .77 for Negative Emotionality, .86 and .81 for Conscientiousness, .82 and .80 for Agreeableness, .79 and .69 for Unconventionality, .89 and .83 for Positive Valence, and .85 and .86 for Negative Valence.

GENERAL PROCEDURE

Prospective participants were directed to one of two parallel websites that were

created in either English or Spanish. Both web pages had the same physical appearance, and the same instructions and questions; the only difference was the language. In order to motivate participants to take part in the study, they were told that they would receive feedback about their personality based on their responses at the end of the study.

After reading a description of the study and agreeing to the items on a consent form, participants clicked an "accept" button. On the second page, they provided answers to the background questionnaire. On the third page they described their personality for 15min. On the fourth page, they provided answers to the IPC-7, and on the fifth page, they provided answers to the BFI. On the sixth and seventh pages they read the automated feedback based on their responses to the BFI, and their personality descriptions respectively.

Procedure for Self- Description Essay

The instruction for the English personality description was as follows:

> Personality has been defined as an individual's characteristic traits, behaviors, and attitudes. For the next 15 minutes, describe your personality. At the end of the questionnaires, you will receive feedback about your writing. For it to be of any value to you, please take the assignment seriously.

The instruction for the Spanish personality description was as follows:

> La personalidad se define como las características, rasgos, comportamientos y actitudes de una persona. Durante los siguientes 15 minutos, describe tu personalidad. Al final de los cuestionarios recibirás retroalimentación acerca de lo que

escribiste. Ya que esta retroalimentación será de gran valor

para ti, por favor toma la actividad con seriedad.

When they were ready, participants clicked the screen. A 15-minute timer was presented on the writing webpage, which included a large blank text field for typing. Individuals were told that they must write for the full 15 minutes and that they should write during the entire time. An automated message flashed onto the screen if they stopped writing to remind them to keep writing. Also, an automated message flashed when the 15 minutes had passed, telling the participants that they could finish typing or continue if they want.

Procedure after Collection of Data

The data collection was automated, thus, participants' specific scores were recorded and saved to a data base. Each of the self-descriptions collected in the U.S. and in Mexico was formatted as a single plain text file. For each text file a spell-check was performed. The mean word count for the English text files was 230.07 (*SD*= 79.81) and for the Spanish text files was 295.06 (*SD*= 157.13).

Chapter 5: Rationale and Procedure for the Meaning Extraction Method (MEM)

To determine intracultural dimensions of personality in the U.S. and in Mexico the meaning extraction method (MEM) was conducted on the open-ended personality description text files. The general steps for the MEM are first, to identify the most frequently-used content words in the text files. The second step is to assess the occurrence of those words in text files. Finally, a factor analysis is performed to derive dimensions of personality.

STEP 1: IDENTIFYING THE MOST FREQUENT TEXT-BASED CONTENT WORDS

In order to determine the most frequently used content words in self-descriptions, frequency counts were taken of all words, excluding closed-class or function words (e.g., articles, auxiliary verbs, prepositions, pronouns, etc.), using a computerized word counter WordSmith (Scott, 1996). The most frequently-used content words used in at least 5% of all self-description text files were selected. Table 1 shows a WordSmith output from the English self-descriptions of personality. Note that words are sorted for percentage of text files in which the word was used. A total of 134 and 132 content words from English and Spanish text files, respectively, were kept for further analyses.

Table 1: WordSmith's Output Sorted by Percentage of Text Files

Word	Freq.	%	Texts	%
PEOPLE	1539	1.1392	510	83.74
PERSON	776	0.5744	412	67.65
THINGS	689	0.51	363	59.61
TIME	616	0.456	349	57.31
FRIENDS	590	0.4367	336	55.17
FEEL	585	0.433	300	49.26
LOVE	687	0.5085	290	47.62
LIFE	493	0.3649	261	42.86
PERSONALITY	420	0.3109	261	42.86
GOOD	377	0.2791	250	41.05
ENJOY	317	0.2346	215	35.30

STEP 2: ASSESSING THE OCCURRENCE OF CONTENT WORDS IN TEXT-FILES

Once the most frequently-used content words were identified, each word was counted separately within each personality essay using a feature of the text analysis program Linguistic Inquiry Word Count (LIWC, Pennebaker, Francis, & Booth, 2001). LIWC is a software program that assesses the percentage of words or words categories in text files. A user-defined dictionary directs LIWC as to which words or categories of words to search for. In this study a dictionary containing the root words of the each selected content word was compiled for LIWC. For example, the dictionary would include a selected word (*e.g., angry*), and all forms of its root word that could be produced using an alternate prefix (*e.g., angrier, anger, angers*), whether or not the alternate form appeared in at least 5.0% of all the self-descriptions. See an example of a LIWC dictionary in English and Spanish in Table 2.

Using the created dictionary in LIWC, it is possible to assess the percentage that category words were used relative to total words. However, as Chung and Pennebaker recommend (2007) it is better to code the data using a binary approach. That is, to observe whether the words occur or did not occur in each text file. They argue that a binary approach is blind to word context and how words are modified, repeated, and qualified (e.g., I'm happiest now, vs. I'm happy, happy, happy, vs. I'm soooooo happy). Indeed, the binary approach is concerned with the fact that the word "happy" was used in one of its forms, and it would ignore the different contexts in which it was used. Knowing that a person used the word "happy" as opposed as to the word "sad" is more meaningful and easier to interpret, than quantifying the degree to which each word was used.

Table 2: Example of a 6 Category Content Word Dictionary in English and in Spanish

English Dictionary		Spanish Dictionary	
%		%	
1	ACTIVE	1	AMABLE
2	AFRAID	2	AMIGOS
3	ANGRY	3	AMOR
4	ATTENTION	4	AÑOS
5	ATTITUDE	5	APRENDER
6	AVOID	6	AYUDA
%		%	
ACTIV*	1	AMAB*	1
ACTIVE*	1	AMIGO*	2
AFRAID	2	AMIGA*	2
ANGRY	3	AMISTAD*	2
ANGRIE*	3	AMO*	3
ANGER*	3	AMOR*	3
ATTENTION	4	AÑO*	4
ATTENTION*	4	APREND*	5
ATTENTIVE*	4	AYUD*	6
ATTITUD*	5		
AVOID*	6		

Note: Here dictionaries in English and in Spanish are presented together: In reality, dictionaries are created independently; use of an asterisk (*) at the end of the word signals LIWC to include subsequent letter(s).

Following Chung and Pennebaker's strategy (in press, 2007), the data was coded for the occurrence (coded as 1) or absence (coded as 0) of each category word. The final data summary, then, can be thought of as an X (number of words) by Y (number of self-descriptions) matrix with each entry referring to the presence or absence of each term within each essay (see Table 3 for an example). A total of 2 matrices were set-up to accomplish the main goal of this study: a 134 (content words) by 560 (American participants' self descriptions) matrix; and a 132 (content words) by 496 (Mexican participants' self descriptions) matrix.

Table 3: Example of a Final Data Summary Outlining Presence or Absence of Each Word in Self-Descriptions

Participant	outgoing	party	shy	happy	express	social	laugh	open	friends
01	0	0	1	1	0	1	0	0	1
02	1	1	0	1	0	0	0	0	0
03	1	0	0	1	0	1	0	0	0
04	0	0	0	0	1	0	0	0	1
05	0	0	0	0	1	0	1	0	1
06	0	0	1	0	1	0	0	0	0
07	0	1	1	0	0	0	0	1	1
08	0	0	0	1	0	0	0	1	0
09	0	0	0	1	0	0	1	0	0
10	1	0	0	1	0	0	1	0	0

Note: The rows indicate participants' self-descriptions; the columns indicate the words; "1" indicates that the word was used by the participant; "0" indicates that the word was *not* used by the participant.

STEP 3: FACTOR ANALYSES: EXTRACTING DIMENSIONS OF PERSONALITY

As was mentioned before, the MEM assumes that groups of words naturally co-occur in meaningful ways. For example, a person with sociability as a prominent part of their self-concept is more likely to attend to, elaborate on, easily categorize and access thoughts related to sociability. Accordingly, one can assume that this person will most likely use sociability-related words like outgoing, shy, party, and quiet than someone who doesn't think in sociability terms. A particularly efficient way to determine the degree to which groups of words cluster together is to rely on the factor analytic approach Although simple principal component analyses using varimax rotation is reported, virtually identical results were obtained using principal axis analyses and with promax, oblique, and equamax rotations.

Additional Meaning Extraction Analyses on Open-Ended Personality Descriptions

Although the main goal from this study was to analyze content words in personality descriptions, a meaning extraction method was done using only *adjectives*

from the Open-Ended personality descriptions. The steps to conduct this analysis were the same as the content words. Specifically, only the most frequent personality-descriptor adjectives used in at least the 5% of all self-description text files were selected excluding those adjectives that were not adjectival person descriptors (i.e., quantitative modifiers, intensifying adjectives, spatial or temporal adjectives). Forty and 41 person descriptor adjectives for English and Spanish, respectively, were kept for further analyses.

Then, a dictionary was created containing each personality descriptor adjective and its different adjectival forms (i.e., if possible, each adjective category included a comparative and superlative adjective). Using LIWC, the occurrence or absence of an adjective was assessed, and two matrices were set-up: 40 (person descriptor adjectives) by 560 (American participants' self-descriptions) matrix, and a 41 (person descriptor adjectives) by 496 (Mexican participants' self-descriptions) matrix. Finally, principal component analyses using varimax rotation were performed. The results from these analyses are shown in Appendix A (for the Americans) and B (for the Mexicans).

Chapter 6: Results

The main goals of this study were to define intracultural dimensions of personality in the U.S. and in Mexico, and to explore the universality and uniqueness of these dimensions. This chapter is divided into four parts: First, an overview of the essays themselves is provided along with the words used in both languages. Second, using the MEM intracultural dimensions of personality in the U.S. and in Mexico based on open-ended self-descriptions are defined. This is followed by analyses to observe how these dimensions are similar or different across cultures are presented. Finally, analyses of how these dimensions correlate with established universal dimensions of personality are shown.

A. Self-descriptions and Word Frequencies in the U.S. and in Mexico

A sample of the self-descriptions in English and Spanish can be read in Table 4 and in Table 5 respectively. The self-descriptions were personal and greatly varied in style. Many commented on their appearance, their worries, their past and future roles, the effects their behaviors had on their social networks, and others' appraisals of themselves among other concerns. From this small sample of self-descriptions, it is clear that students in the U.S. and Mexico took the study seriously and felt free to disclose even highly sensitive topics.

Table 6 shows the top-40 most frequent content words used by Americans and Mexicans. Note that many of the top-10 most frequent words in the English text files are also within the top-10 most frequent words in the Spanish text files (*i.e., person, people, time, friends, feel, life, and good*). Some interesting differences across cultures is that Americans use more words about being outgoing and sociable (*e.g., ougoing, shy, close,*

laugh, open, talk, social, friendly, meet). Whereas, Mexicans use more words related to being nice and agreeable (*e.g., cheerful, responsible, sensible, sociable, help, anger, affectionate, honest, trust*).

Table 4: Passages from U.S. Participants' Self-Descriptions

Participant	*Sample of Self-descriptions in English*
02	I am basically outgoing and I laugh a lot. I talk a lot also. I don't get mad at too many people and if I do that means you must have really did something to hurt me badly. I don't hold grudges on people either. I get along with mostly everyone I meet but I do also judge people. I like myself and I get along with my friends well. I also get along with my family and boyfriend well too. I have brown hair and it's long. I am about 5'4, maybe a little shorter. I have hazel eyes and I have a slim body type. I like cheerleading o and I love my kitty. my kitty makes me really happy to every time I see her. I smile a lot because I normally am always happy. I like to party and have good times
09	…I am a Christian and I am a pretty easy going guy. I have a wonderful family and I know that my parents have raised me in a way that my character and moral values are excellent. Not only do I have a wonderful family, but I also have an amazing group of friends. My friends are both Christian and non-Christian and come from all different backgrounds in life so I guess you could say I am pretty likeable guy no matter who you are. I am very responsible and need to be more than ever in college…
76	…for the most part I get a long with everyone. I like to meet new people and be involved with the community. Many of my friends say that I am very nice, intelligent, and down to earth. I have much respect for my peers and I am well behaved and have appropriate manners. My attitude on life is to, live life like there will be no tomorrow, you should enjoy it and not let anything bring you down.
109	I am a usually a very optimistic person. I tend to look at the positive side of things instead of the negative. It takes a lot to really bring me down because I look at mistakes and failures as stepping stones to reach my goals. I am also a goal-oriented person. I set high goals for myself and set smaller ones to reach the higher ones. I like to be organized in everything that I do, I do not like messy things. I like to structure my life so I know exactly what my next step will be. I always carry my planner with me at all times to remind myself of what I need to do next
197	I believe I am a somewhat introverted person. I tend to be more shy when it comes to new situations. However, despite being shy, my personality traits are very acceptable. I have a very warm personality, one in which anyone can approach and be assured a very welcome response. There is a very strong desire for me to do good in this world. I would much rather be a good person and do good deeds then hurt anyone. So, I find myself to be very nice and very good-hearted…
445	Shopping is therapeutic. I like photography. I like capturing moments. I like memories and reminiscing and songs that make me nostalgic. I like going to festivals where everyone is in a good mood and just enjoying the music. I like being surprised. I like reality television. I'm always concerned about my appearance and my weight. I think being Asian has it's pros because it's somewhat exotic, but at the same time you're still a minority and that's never a good thing
632	…I almost have two personalities, I think. There's the one that can make himself look like a food or be immature for a laugh or a chuckle, but there is also the other side of me that takes things seriously and can put deep thought into certain things. I never allow myself to switch back and forth without people knowing, but I like the fact that people can know me as a funny person who can joke about himself AND someone who can think deeply and seriously…

Table 5: Translated Passages from Mexican Participants' Self-Descriptions

Participant	*Sample of Self-descriptions in Spanish*
19	Since I was little, I have always enjoyed interacting with different people and I love to study psychology, because I like to understand a little bit about the behavior of other people, and understand them in order to help them, since the human being is the most wonderful thing that exists. A factor that has helped me in my life regarding to socialization is being part of a scout group…life outdoors and learning while playing is like setting the foundations of learning about how to interact with other groups and interact with, children, youngsters and adults.
09	…I am kind but I have my proud, I like to love and being loved, I am attentive, romantic, and tender, I like to pamper, but I also like to be pampered. I have strong character and I am somewhat cold, I have ideals and goals to short and long term. I like to be active in the things that I like, however sometimes I also like to enjoy sleeping and resting for a while. I like school and being in school…to learn day by day new things. I prefer sports like basketball and squash, walk in cloudy days, go out and have a coffee, eat and visit a park, museums and do sort of things. I don't like to smoke nor drink. I enjoy being at home in the computer or reading or listening to music and very few times watching TV. I am a lover of technology and robotics
319	I define myself as a respectful person with others, I am devoted in everything I do, persevering and someone that accomplish everything that sets its mind on, with convictions and passions, with short and long term goals. I am in love with life, I trust that diversity enrich community living. I hardly get angry, but I need to raise the tone of my voice so other people listen what I do. I am patient, but in occasions I might loose patience. It is very difficult for me to feel frustration, on the contrary, every failure that I face, gives me tools to be a much better person…
445	…I am studious, but in occasions absentminded. Regarding my behaviors I try to do things the best I can….in occasions I feel lazy about life, I like music, I play an instrument, I like to read, I am interested in my career and becoming someone worthwhile. I would like to be respected and acknowledged in my work. I would like that the knowledge that I have acquire so far, I can use it in the working moment of my life…I hope to have success in my family life, and do not lack of money and avoid family and law problems, I am afraid of insects.
512	Without I doubt I am a depressive person, and I am always believing that I know what other people is thinking, but without a doubt I am always wrong…and that has brought me difficulties to relate with other people….since I become paranoid and I like to please others and that is why that I try to make them feel better, even though I am lying, because I am also a liar … I am a hardworking person that feels that soon will die and that makes me feel that I am loosing my time at school. I like to cook and the indigestion of alcoholic drinks, I love tobacco and coffee, I like being told that I am in the right steps, however, I feel that my life is empty. I love people who don't have the answer to everything. I love that people acknowledge what I do…I am afraid that when I meet the right women I will fail.
623	I am 24 years old, I am the fourth daughter of five children. I live with my sister close to the university. I visit my parents every weekend. I have lots of friend and I love them as my brothers, since we have a close relationship…about my personality I am very friendly, and I tend to trust people easily, just as people can trust me. I consider myself intelligent and responsible. I am capable of working under pressure and with a limit of time.

Table 6: Word Frequencies in English and Spanish Text Files

	Words in the English text files	% in Texts	Words in the Spanish text files	% in Texts
1	People	83.74	PERSONA/Person	77.44
2	Person	67.65	GENTE/People	50.94
3	Time	57.31	AMIGOS/Friends	49.57
4	Friends	55.17	SIENTO/Feel	45.64
5	Feel	49.26	VIDA/Life	43.08
6	Love	47.62	FAMILIA/Family	41.20
7	Life	42.86	TIEMPO/Time	39.15
8	Personality	42.86	BUENA/Good	29.74
9	Good	41.05	ALEGRE/Cheerful	29.23
10	Enjoy	35.30	TRABAJO/Work	28.21
11	Family	34.48	PROBLEMAS/Problems	25.98
12	Outgoing	32.18	ENCANTA/Like	22.22
13	Hard	29.39	SOLO/Alone	21.88
14	Pretty	24.96	RESPONSIBLE/Responsible	21.71
15	Find	23.97	IMPORTANTE/Important	20.17
16	School	23.81	SENSIBLE/Sensible	20.00
17	Work	23.32	MÚSICA/Music	19.32
18	Shy	22.99	ESCUCHAR/Listen	19.15
19	Fun	22.66	AYUDAR/Help	18.46
20	Care	20.53	SOCIABLE/Sociable	17.78
21	Easily	19.05	FUERTE/Strong	17.61
22	Happy	18.23	CARÁCTER/Character	16.58
23	Close	17.73	INTELIGENTE/Intelligent	16.58
24	Laugh	17.57	FORMA/Form	15.90
25	Open	17.57	PENSAR/Think	15.90
26	Talk	17.41	ENOJO/Anger	15.38
27	Situations	17.41	AÑOS/Years	15.21
28	Describe	17.24	CARIÑOSA/Affectionate	15.21
29	Social	16.58	MIEDO/Fear	15.21
30	Important	16.42	FELIZ/Happy	14.87
31	Easy	16.42	SINCERA/Honest	14.70
32	Nice	15.76	PERSONALIDAD/Personality	14.53
33	Funny	15.11	CONFIANZA/Trust	14.19
34	Bad	14.61	HABLAR/Talk	14.19
35	Attitude	13.96	LEER/Read	14.19
36	Positive	13.79	DISFRUTO/Enjoy	14.02
37	Friendly	13.63	DIFÍCIL/Difficult	13.68
38	Comfortable	13.30	FÁCILMENTE/Easily	13.50
39	Mind	12.97	PREFIERO/Prefer	13.50
40	Meet	12.64	RELACIONES/Relationships	13.16

B. Dimensions of Personality: The Meaning Extraction Method

Intracultural Dimensions of personality in the U.S.

A principal components extraction with varimax rotation was first performed on the words from the English self-descriptions. Diagnostic tests indicated that a factor model was appropriate for the data (*KMO* = .50, Bartlett's test of sphericity = 12695.60, p < .001). Based on a scree of eigenvalues for the principal components, 7 factors were extracted. The first 7 factors accounted for 13.98% of the total variance. Although this percentage is small it is similar to that reported by Chung and Pennebaker (in press), and decent for the amount of variability in natural language. As Chung and Pennebaker's study, factor loadings of .20 or higher were retained.

As can be seen in Table 7, 6 of the 7 factors bring together a group of content words that are psychologically meaningful and coherent. Factor 3 included positive and negative loadings, indicating two different factors within this factor: Fun (negative loadings) and Existentialism (positive loadings). From now on those subfactors will be referred as Factors 3A and 3B, since each one is coherent. For example, Factor 3A (Fun) includes *outgoing, friend, fun, party, girl*. Likewise Factor 3B (Existentialism) includes *hope, attitude, thinking, understand, future*.

Closer inspection of the factors show that there are two factors related to sociability; however, one refers more to assertiveness, and the other refers to having fun. For example, in contrast with the factor 3A (Fun), Factor 2 (Sociability) includes *group, comfortable, enjoy, open, close, social, relationship, problem, prefer, shy.* These two factors were similar to the Sociability factor found by Chung and Pennebaker (2006).

Other factors were concerned with either more mundane or abstract themes such as 5 (Daily Activities), 1 (Values) and 3b (Existentialism). Factor 5 consisted of a group of words describing common activities (*e.g., play, watch, work, stay, spend*), their associated objects (*e.g., school, music, sports*), and time markers (e.g., *years, day).* Factor 1 (Values) lists *family*, *care, God, give, live, love, trust, respect.* These three factors were similar to those found in Chung and Pennebaker (in press), especially the Daily Activities and Existentialism. However, in Chung and Pennebakers' study, the factor Values was separated in two factors, Relationships and Ambition.

Two other factors refer to positive and negative valence. Factor 6 (Positivity) includes *laugh, humor, sarcastic, pretty, good, happy*; whereas Factor 4 (Negativity) includes *hurt, upset, mad, bad, angry*. Interesting, Chung and Pennebaker (in press) did not find valenced factors. This might be due to the fact that participants in their study were asked to look at themselves at the mirror and therefore participants concentrated in more superficial aspects of their personality and slightly more negative aspects, a possible effect of self-focused attention (Duval & Wicklund, 1972). For example, Chung and Pennebaker reported three factors that were not found in this study: Appearance (*e.g., hair, eyes, brown, nose*), Evaluation (*e.g., weight, fact, lose, pretty*), and Reflection/Interests (e.g., *mirror, see, face, look*).

Finally, Factor 7 (College Experience) shows that participants were describing their personality in terms of their experience of starting college. This factor includes words such as: *class, room, meet, boyfriend, college.* This factor was not found in Chung and Pennebaker's study (in press).

Table 7: Content Words from Americans' Self-Descriptions: A Varimax-Rotated Principal Components Analysis

	Personality Factors						
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7
	Values	**Sociability**	**A Fun B Existentialism**	**Negativity**	**Daily Activities**	**Positivity**	**College Experience**
Family	**.49**	.04	-.08	-.08	.04	-.06	.12
Important	**.37**	.00	.07	-.19	.03	.01	.10
Strong	**.36**	**.21**	.15	-.01	-.01	-.07	-.11
Love	**.36**	-.05	-.11	.02	.28	.16	.22
Life	**.35**	.02	.20	-.11	.14	.12	-.05
Heart	**.32**	-.04	.11	.22	.00	.01	-.07
Making	**.30**	.04	-.12	.18	.00	.29	.02
Care	**.30**	.06	-.02	.04	-.07	.01	.04
Goal	**.29**	.24	.05	-.15	.08	-.21	.09
God	**.28**	.00	.02	.02	-.01	.05	-.04
Give	**.27**	-.03	.07	.05	-.01	.01	-.03
Live	**.26**	-.04	.17	.08	.09	-.02	.06
Set	**.24**	.15	.03	-.07	-.12	-.23	.04
Trust	**.23**	-.04	-.01	.05	-.21	.00	-.19
Hard	**.23**	.02	-.01	.19	.02	.03	.03
Takes	**.23**	.01	-.05	.10	-.01	-.04	.15
Respect	**.22**	-.02	.07	-.15	-.20	-.14	.02
Oriented	**.21**	.08	-.01	-.04	.03	-.10	.09
Introverted	**-.20**	.17	.04	.06	-.06	-.04	.05
Honest	.17	-.05	-.09	-.13	-.10	.04	-.12
Hold	.17	-.04	-.01	.07	.07	-.04	-.06
Optimistic	.15	.00	.13	.09	-.08	.08	-.13
Group	-.05	**.43**	-.05	.00	-.05	.05	.02
Interesting	.00	**.30**	.11	-.05	.05	.07	.06
Close	.13	**.30**	-.17	.10	.07	-.05	-.07
Listen	.04	**.29**	.01	.05	.01	.04	.05

Table 7: Continue

	Factor 1	Factor 2	Factor 3		Factor 4	Factor 5	Factor 6	Factor 7
	Values	**Sociability**	**A Fun**	**B Existentialism**	**Negativity**	**Daily Activities**	**Positivity**	**College Experience**
Situation	.10	**.29**	.02		.11	-.23	-.01	-.11
Comfortable	-.09	**.29**	-.10		.12	-.20	-.08	.15
Open	.10	**.28**	.01		.01	-.02	.04	.05
Mind	.08	**.27**	.16		.02	.03	-.08	.18
Enjoy	-.02	**.26**	.07		-.12	.19	.13	.05
Social	-.05	**.25**	-.16		-.02	-.02	-.11	-.04
Problem	.07	**.24**	.00		.23	-.03	-.01	-.14
Creative	-.02	**.24**	.03		.09	.09	-.08	-.13
Find	.06	**.24**	.20		.14	-.07	.01	.09
Prefer	-.14	**.23**	.08		-.10	.05	.17	.01
Time	.10	**.22**	-.11		.18	.10	-.01	.08
Attention	-.07	**.22**	-.05		.11	-.07	.08	.19
Relationship	.16	**.22**	.01		.07	.20	.06	.03
Worry	.01	**.21**	-.02		.20	.03	-.07	-.07
Lazy	.00	.16	-.16		.10	.04	.16	.03
Confident	.06	.12	-.06		.02	.05	-.05	.05
Deal	-.06	.09	.04		.02	.06	-.09	-.03
Outgoing	.11	.03	**-.39**		.07	-.08	.07	.02
Friend	**.31**	.20	**-.34**		.12	.10	.07	.06
Hang	-.02	.00	**-.33**		-.01	.01	.07	-.08
Fun	.14	-.04	**-.28**		-.05	.10	.19	.03
Party	-.01	.18	**-.23**		-.08	.07	.20	.04
Girl	-.06	.03	**-.22**		.04	.21	.20	.10
Traits	.12	-.02		**.36**	-.08	.01	-.02	-.03
Attitude	.13	-.06		**.33**	.03	-.05	.17	-.01
Hope	.14	-.09		**.32**	-.12	.03	.14	.17
Understand	.06	.08		**.31**	.06	.04	-.02	-.10
Negative	-.04	.02		**.31**	.09	-.01	-.05	-.02

Table 7: Continue

	Factor 1	Factor 2	Factor 3		Factor 4	Factor 5	Factor 6	Factor 7
	Values	**Sociability**	**A Fun**	**B Existentialism**	**Negativity**	**Daily Activities**	**Positivity**	**College Experience**
Difficult	-.01	.21		**.28**	-.04	.02	-.14	-.08
Personality	-.02	.05		**.28**	.12	.03	.06	-.10
Thinking	.03	.15		**.25**	.16	-.06	.18	.10
Positive	.17	-.04		**.24**	.02	-.11	.06	.10
Future	.12	.07		**.21**	-.06	.07	-.17	.15
Calm	-.12	.16		**.21**	-.06	-.01	-.13	-.08
Learn	.04	-.04		**.21**	.04	.19	-.08	-.02
Active	.02	.14	-.18		.01	.17	-.04	-.04
Type	-.04	.04	.17		-.12	.07	.09	.00
Describe	.11	-.02	.17		-.02	-.10	.04	-.12
Fact	.14	.13	.15		-.02	.10	.07	-.04
Smart	-.03	-.04	.14		.03	.08	.13	.06
Reason	.09	.01	.12		-.02	.11	.09	.10
Laid	-.05	.07	-.10		-.04	-.05	.09	.03
Hurt	.16	-.02	-.04		**.40**	-.13	.01	-.02
Upset	-.08	.02	.03		**.37**	.03	.03	-.05
Easy	.15	.07	-.03		**.37**	-.10	.10	.06
Feel	.03	**.21**	.17		**.36**	.06	-.03	.03
Told	.04	.07	.04		**.33**	-.07	.12	-.10
Mad	.02	-.11	-.12		**.31**	.16	.19	.06
Avoid	-.06	.04	.03		**.29**	-.09	-.09	-.03
Emotions	.03	.21	-.03		**.27**	.04	.04	**-.21**
Bad	.07	-.11	.11		**.27**	.17	.09	-.01
Afraid	-.02	.06	-.03		**.26**	-.08	.03	.07
Angry	-.15	-.08	.17		**.25**	.00	-.03	-.04
Wrong	.00	.07	-.03		**.24**	.06	.06	-.06
Quiet	-.21	.18	-.07		**.23**	-.09	-.03	.05
Side	-.12	-.04	.05		**.20**	.11	.13	-.19

Table 7: Continue

	Factor 1	Factor 2	Factor 3		Factor 4	Factor 5	Factor 6	Factor 7
	Values	**Sociability**	**A Fun**	**B Existentialism**	**Negativity**	**Daily Activities**	**Positivity**	**College Experience**
Change	.05	.01	.06		.18	.02	.05	.11
People	.08	.16	-.02		.16	-.03	.04	.11
Place	.06	-.01	.09		.12	-.01	-.03	.11
Play	.05	.03	-.14		-.12	**.50**	.11	-.10
Sports	.16	.02	**-.32**		-.13	**.40**	-.11	-.15
Years	-.09	.01	.13		-.09	**.37**	.11	.04
Child	-.03	-.06	.06		.07	**.33**	-.10	-.03
Watch	-.07	.12	-.18		-.01	**.32**	.27	.07
Music	-.13	.21	.17		-.17	**.30**	.14	.01
School	.19	.07	-.13		-.07	**.27**	.00	.24
Parents	.13	-.18	-.04		.15	**.27**	.00	.11
Day	.12	-.12	.08		.07	**.26**	.03	.08
Stress	.08	.05	.00		.08	**.26**	-.12	.00
Work	.13	.08	-.16		-.03	**.25**	-.02	.22
Stay	-.01	.17	-.11		.04	**.24**	-.09	-.04
Individual	.00	.17	.17		.01	**.21**	-.12	-.10
Shy	-.17	**.28**	-.24		.09	**-.29**	.07	.07
Spend	-.09	.18	.00		.00	.18	-.06	.14
Friendly	.05	.00	-.07		.06	-.15	.03	.09
Stand	.12	.13	.08		.07	-.14	.09	-.08
Laugh	.11	-.03	-.06		.09	-.02	**.48**	.04
Humor	-.03	.27	.00		**-.35**	-.22	**.44**	-.12
Sense	-.02	.28	.08		**-.31**	-.17	**.41**	-.15
Sarcastic	.08	.09	-.01		-.14	-.14	**.34**	-.06
Pretty	-.03	.14	-.07		.07	.04	**.33**	.00
Guy	.02	.02	-.16		-.12	.17	**.32**	-.05
Good	.20	.07	-.05		.17	.04	**.29**	.02
Guess	.00	-.05	.09		.12	.02	**.28**	.01

Table 7: Continue

	Factor 1	Factor 2	Factor 3		Factor 4	Factor 5	Factor 6	Factor 7
	Values	**Sociability**	**A Fun**	**B Existentialism**	**Negativity**	**Daily Activities**	**Positivity**	**College Experience**
Mood	-.05	-.02	.02		.06	-.08	**.26**	.07
Nice	.06	-.19	-.10		.04	-.06	**.23**	-.11
Happy	.15	.03	.03		.11	**.21**	**.21**	-.05
Funny	-.07	-.13	.04		.08	.00	**.20**	.02
Competitive	.15	.04	-.18		-.08	.16	**-.22**	-.18
Loud	-.07	.17	-.06		.13	-.16	.19	.04
Show	.12	.01	-.04		.07	-.04	.13	-.09
Call	.00	-.05	.06		-.01	.02	.11	.05
Clean	-.09	.10	.08		-.02	.13	.11	**.55**
Organized	.09	.10	-.08		-.06	-.03	-.10	**.54**
Class	-.04	-.04	.01		-.10	.01	.10	**.37**
Room	-.16	.14	.02		-.08	-.02	.05	**.36**
Speak	-.02	.18	.04		.05	-.16	-.05	**.32**
Boyfriend	.07	-.09	.05		.14	.15	.08	**.30**
Meet	.04	.00	-.17		-.06	-.02	.18	**.28**
College	.04	-.01	-.03		-.13	.22	.25	**.27**
Plan	.13	.05	-.04		.11	-.11	-.20	**.27**
Talk	.08	.08	-.03		.06	-.11	.07	**.24**
Hate	.04	-.01	.00		.18	.00	-.03	**.20**
Start	.00	-.04	-.02		.17	.02	.03	**.20**
Intelligent	.04	.20	.00		-.16	-.06	-.02	**-.20**
Point	.04	.08	.08		.05	-.07	.05	-.15
Independent	.00	.08	.00		-.06	.12	.07	-.15
Order	.02	.04	.13		-.08	-.08	.03	.14

Note: Boldface indicates factor loadings greater than or equal to .20.

Intracultural Dimensions of Personality in Mexico

A principal components extraction with varimax rotation was performed on the category words from the Spanish self-descriptions. Diagnostic tests indicated that a factor model was appropriate for the data (*KMO* = .54, Bartlett's test of sphericity = 12417.92, p < .001). Based on a scree of eigenvalues for the principal components, 6 factors were extracted. The first 6 factors accounted for 13.97% of the total variance. Factor loadings of .20 or higher were retained.

As shown in Table 8, the 6 factor solution yielded a set of coherent dimensions, some of which resembled those found in the U.S.-descriptions. Specifically, Factor 3 (Sociability) and Factor 4 (Values) of the Spanish descriptions were similar to Factor 2 (Sociability) and Factor 1 (Values) of the English descriptions. For example, Sociability included, *speak, express, alone, timid, nervous* and Values included *learn, accomplish, work, money, God, life*.

Factor 5 (Emotionality) included both negative and positive valenced words (e.g., *sad-happy, hate-love, good-bad*). Factor 2 (Hobbies) was similar to the Daily Activities factor from the U.S.-descriptions, but, it did not include the time component; more than referring to everyday activities Hobbies referred to what participants like to do in their lives (*e.g., music, dance, read, listen, travel, parties*).

Two factors were not found in the U.S.-participants: Factor 1 (Relationships) and Factor 6 (Agreeableness/Simpatía). The factor Relationships included words related to family activities (*e.g., parents, house, family, eat, children*), friends and romantic relationships (*e.g., love, friends, boyfriend, relationship*), and education (*e.g., career, university, school*). This factor was similar to the factor Relationships found by Chung

and Pennebaker (in press). It is important to discuss, though, why in this study the factor Relationships was not found for the U.S.-participants. Perhaps, the reason lies in the fact that in this study, words using a more stringent criterion were selected (i.e., words that were in at least 5.0% of the text files, in contrast with 3.0% of the text files). This suggests that maybe for the Americans, words related to relationships are less frequent and less consistent.

Finally, Factor 6 was labeled Simpatía because is a reflection of the well-established cultural-script of Mexicans. Recall that a person high on Simpatía is likeable, easygoing, polite, and fun to be with, is affectionate and likes to share feelings with others. Indeed, in the Simpatía dimension Mexicans used words such as *affectionate, honest, responsible, kind, noble, tolerant.*

Table 8: Content Words from Mexicans' Self-Descriptions: A Varimax-Rotated Principal Components Analysis

	Personality Factors					
	Factor 1 **Relationships**	Factor 2 **Hobbies**	Factor 3 **Sociability**	Factor 4 **Values**	Factor 5 **Emotionality**	Factor 6 **Simpatía**
PADRES/Parents	**.48**	-.01	-.09	.07	-.03	.01
CARRERA/Career	**.43**	.25	-.11	.06	-.08	-.01
AÑOS/Years	**.41**	.09	.12	.11	.00	-.15
ESTUDIAR/Study	**.40**	**.38**	-.03	.09	-.03	-.06
AMO/Love	**.39**	-.04	.01	.12	**.20**	**.24**
CASA/House	**.38**	.14	.02	-.08	.00	-.06
AMIGOS/Friends	**.37**	**.23**	.17	.03	.04	.01
NOVIO/Boyfriend	**.36**	.15	-.01	.04	.05	.09
UNIVERSIDAD/University	**.35**	.01	.09	.04	-.07	-.11
NIÑOS/Kids, children	**.34**	.11	-.10	.13	.12	-.14
FAMILIA/Family	**.34**	.06	-.06	**.30**	.01	.01
BUENA/Good	**.31**	.08	.10	.10	**.27**	**.21**
RELACIÓN/Relationship	**.30**	.02	**.30**	**.25**	-.02	.08
ESCUELA/School	**.25**	.07	.02	.01	.02	.07
COMER/Eat	**.23**	**.22**	-.11	.05	.19	.02
AYUDA/Help	**.21**	-.01	.15	.12	.03	**.21**
PENA/Pain	**.21**	-.10	-.03	.13	**.20**	.06
ESPERO/Hope	**.20**	-.05	.19	.07	.04	.05
MENTE/Mind	-.17	.10	.16	.07	.05	.11
ABIERTA/Open	-.16	.09	.02	.11	.04	.01
DEFECTOS/Defects	.15	.04	.00	-.04	.11	.06
AGRADAR/Please	.15	-.01	.08	.06	.09	.08
MÚSICA/Music	.14	**.54**	.15	-.06	-.05	-.05
CINE/Movies	.00	**.53**	.01	-.08	-.05	.02
BAILAR/Dance	.18	**.46**	-.05	-.09	.16	.13
LEER/Read	.11	**.45**	.08	.20	-.02	-.08
ESCUCHAR/Listen	.04	**.42**	**.27**	-.15	.02	.11

Table 8: Continue

	Factor 1 **Relationships**	Factor 2 **Hobbies**	Factor 3 **Sociability**	Factor 4 **Values**	Factor 5 **Emotionality**	Factor 6 **Simpatía**
DISFRUTA/Enjoy	-.02	**.38**	.11	.10	.18	-.13
VIAJAR/Travel	.04	**.38**	.07	.16	-.11	-.01
LUGARES/Places	.05	**.36**	.17	-.05	.06	-.15
PSICOLOGÍA/Psychology	**.29**	**.30**	.06	.04	-.03	-.01
INTELIGENTE/Intelligent	-.17	**.30**	.02	**.25**	.06	.15
FIESTAS/Parties	.03	**.28**	-.06	-.07	-.10	-.02
OPTIMISTA/Optimistic	-.06	**.24**	.04	.13	.02	-.03
MUJER/Women	.05	**.24**	.11	.18	.04	-.03
CONVIVIR/Hangout	.09	**.23**	.02	.00	.10	-.19
FUTURO/Future	.12	**.22**	.06	.04	.02	.01
ACTIVIDADES/Activities	-.05	**.21**	.18	.14	-.06	-.11
NATURALEZA/Nature	.10	**.20**	-.01	.06	-.08	.04
EJERCICIO/Exercise	.03	.19	-.09	.01	.06	.02
EXTROVER/Extroverted	-.11	.18	.08	-.10	.10	.04
PERFECCIONISTA/Perfectionist	-.05	.15	-.01	.03	.06	.13
IMPULSIVA/Impulsive	-.06	-.12	.09	.06	.10	.03
CREATIVA/Creative	-.11	.11	-.03	.03	.06	-.01
HABLAR/Speak	.01	.08	**.47**	.00	.10	.03
PREFIERO/Prefer	-.06	.09	**.42**	-.04	.00	-.02
MIEDO/Fear	-.06	.02	**.29**	.07	.14	.15
EXPRESAR/Express	-.09	-.06	**.29**	.16	.15	-.03
CONFIANZA/Trust	.07	-.03	**.28**	-.04	.01	**.23**
DEJAR/Leave	.12	-.04	**.28**	.15	.06	.02
PROBLEMA/Problem	.12	.04	**.27**	.16	-.01	-.11
MUNDO/World	.02	.02	**.27**	.20	-.06	-.09
PACIENTE/Patient	-.06	-.04	**.26**	-.04	-.11	.12
TRANQUILA/Tranquil	.03	.06	**.26**	-.04	-.05	.07
SOLA/Alone	.17	.11	**.25**	.08	.20	-.02
NECESITO/Need	.05	-.04	**.24**	.13	.04	.03

Table 8: Continue

	Factor 1 **Relationships**	Factor 2 **Hobbies**	Factor 3 **Sociability**	Factor 4 **Values**	Factor 5 **Emotionality**	Factor 6 **Simpatía**
INSEGURA/Insecure	.02	.05	**.24**	-.12	.17	.10
TÍMIDA/Timid	-.07	.01	**.24**	-.09	-.01	.00
NERVIOSA/Nervous	.00	.07	**.24**	**-.23**	-.06	.05
ATENCIÓN/Attention	.02	.10	**.24**	.06	-.05	.06
ERRORES/Errors	.00	.00	**.22**	.00	.10	-.03
PLATICAR/Talk	.12	.18	**.22**	-.05	.08	-.02
PAREJA/Couple	**.21**	-.10	**.22**	.10	-.01	.16
PERSONA/Person	-.03	.11	**.22**	-.05	.17	.15
ACTITUD/Attitude	-.13	.09	**.21**	.06	.08	.00
ESCRIBIR/Write	.16	.09	**.21**	.09	.00	-.10
MOLESTA/Bother	.00	.06	**.20**	.08	.12	-.09
ESFUERZO/Effort	-.01	.12	**-.20**	.11	.14	.06
INTROVERTIDA/Introverted	-.08	.02	.18	-.14	.05	-.09
VALORES/Values	.10	-.06	-.10	**.46**	.00	.07
APRENDER/Learn	.05	.19	.07	**.35**	.13	.13
SOCIEDAD/Society	.01	.00	-.11	**.34**	-.11	-.04
LOGRAR/Accomplish	-.07	.06	-.06	**.34**	.11	**.20**
TRABAJAR/Work	.13	.11	.18	**.32**	.03	.11
IDEAS/Ideas	-.18	.10	.20	**.31**	.05	.06
DINERO/Money	.12	.07	.00	**.31**	-.18	-.15
ENCUENTRO/Find	.17	-.01	**.23**	**.29**	-.12	.01
VIDA/Life	**.22**	.09	**.24**	**.28**	.13	-.18
DIOS/God	.15	.13	-.11	**.28**	.04	.09
INTERESA/Interest	-.07	.11	.17	**.26**	.03	-.07
DIFÍCIL/Difficult	.04	.07	**.22**	**.25**	.01	.13
FORMA/Form	.05	-.06	**.20**	**.25**	.03	-.02
ASPECTO/Aspect	.04	-.08	.03	**.23**	.11	.03
SOCIALBLE/Sociable	-.06	.13	-.06	**.23**	-.10	.05
DÍA/Day	.11	.17	-.01	**.22**	.12	-.07

Table 8: Continue

	Factor 1 **Relationships**	Factor 2 **Hobbies**	Factor 3 **Sociability**	Factor 4 **Values**	Factor 5 **Emotionality**	Factor 6 **Simpatía**
FÍSICO/Physical	.07	-.04	.07	**.22**	-.05	-.08
GRUPO/Group	.10	-.05	.02	**.20**	.00	-.13
PESAR/Sorrow	.07	.06	.08	**.20**	.13	-.03
DECISIONES/Decisions	-.10	-.11	.18	.19	.04	.08
METAS/Goals	-.03	.10	-.01	.17	.04	.16
DAÑO/Harm	-.08	-.07	.04	.15	.06	.13
SENTIMENTAL/Sentimental	.07	.01	**.33**	-.02	**.40**	.05
ODIO/Hate	.02	.03	.01	.14	**.34**	.00
TRISTE/Sad	.00	.04	.12	.03	**.34**	-.03
CAMBIAR/Change	.11	.01	.18	.07	**.33**	.04
PENSAR/Think	.10	-.08	**.25**	.11	**.32**	-.05
FELIZ/Happy	.14	.09	.00	.06	**.31**	-.03
MALO/Bad	**.22**	.09	.02	-.09	**.29**	.17
REÍR/Laugh	.09	-.04	.13	-.17	**.28**	.03
ALEGRE/Cheerful	-.09	.18	-.07	-.14	**.27**	.08
HUMOR/Humor	-.04	.07	.03	-.10	**.24**	-.05
MOMENTOS/Moments	.15	-.07	**.22**	.06	**.24**	-.09
ESPECIAL/Special	.12	-.09	.04	.08	**.21**	-.12
TIEMPO/Time	.16	.19	.17	.17	**.20**	-.03
OJOS/Eyes	**.23**	.00	.15	-.04	**-.54**	.01
CABELLO/Hair	**.24**	.00	.16	-.02	**-.53**	.01
LLEGAR/Arrive	.04	-.09	.17	-.13	.19	.03
VOLUBLE/Moody	-.14	-.02	.00	-.10	.18	-.08
PERSONALIDAD/personality	-.04	-.12	.01	.02	.18	.00
PREOCUPO/Worry	.05	.05	.05	.14	.15	-.02
CARIÑOSA/Affectionate	.00	.16	-.07	-.04	.02	**.43**
RENCOROSA/Rancorous	.08	-.11	.10	-.07	.15	**.36**
HONESTA/Honest	-.03	-.03	.00	-.01	-.05	**.34**
CELOSA/Jealous	.08	-.06	**.21**	-.02	.08	**.33**

Table 8: Continue

	Factor 1 **Relationships**	Factor 2 **Hobbies**	Factor 3 **Sociability**	Factor 4 **Values**	Factor 5 **Emotionality**	Factor 6 **Simpatía**
SENSIBLE/Sensible	**-.28**	.13	.08	.19	.09	**.33**
RESPONSIBLE/Responsible	.06	-.02	-.09	.11	-.03	**.32**
AMABLE/Kind	-.04	.07	.02	.03	-.03	**.32**
ENTREGADA/Devoted	.06	-.10	.20	-.06	.02	**.31**
NOBLE/Noble	-.01	-.03	-.11	.00	-.02	**.30**
TIERNA/Tender	.04	-.06	.08	-.02	-.03	**.29**
RESPETO/Respect	.01	-.06	-.02	**.21**	-.12	**.28**
SINCERA/Sincere	-.06	-.06	.07	-.12	-.06	**.27**
FIEL/Faithful	.13	-.05	-.01	-.08	.02	**.27**
TOLERANT/Tolerant	**-.23**	.07	.08	.07	-.04	**.27**
ORGULLOSA/Proud	.05	.10	-.02	-.13	.15	**.26**
ENOJONA/Angry	.01	-.06	.01	**-.24**	.19	**.25**
LEAL/Loyal	.05	.04	.00	.09	.06	**.23**
DIVERTIDA/Fun	.11	.08	.00	-.12	.08	**.23**
EGOÍSTA/Selfish	-.07	-.05	.05	.04	-.02	**.22**
COMPARTIR/Share	-.01	.01	.13	-.01	.10	-.18
INDEPENDENT/Independent	-.12	.09	.04	.15	.09	.18
AMIGABLE/Friendly	-.01	.01	.01	.03	-.09	.17

Note: Boldface indicates factor loadings greater than or equal to .20.

Summary

By using the meaning extraction method it was possible to define coherent intracultural dimensions of personality in the U.S. and in Mexico. The results showed that four factors in the U.S. were similar to those found in Mexico. Specifically, in both cultures, the most salient and chronically activated dimensions of personality were Values, Sociability, and Emotionality. Although emotions in the U.S. sample were reflected in two separate factors (i.e., Positivity and Negativity), they appeared together in a single Emotional factor in the Mexican sample. Other factors that were similar across cultures were Activities in the U.S. and Hobbies in Mexico. However, there were some apparent differences between them: While in the U.S., Daily Activities reflected everyday mundane activities, in Mexico, Hobbies, reflected specific interests. In sum, the factors Values, Sociability, Emotionality and Hobbies/Daily Activities, can be thought as *transcultural* dimensions of personality. In contrast, three factors in the American sample (Fun, Existentialism, and College Experience) and two factors in the Mexican sample (Relationships and Simpatía) can be thought as *culture-specific* dimensions.

C. SIMILARITIES AND DIFFERENCES OF DIMENSIONS ACROSS CULTURES

In order to analyze if dimensions were comparable across cultures, first the *translated* approach was done. This approach consisted in performing the following four steps: 1) a LIWC dictionary was created where each word that belonged to a factor comprised a single LIWC category. For example, the dictionary would include a category called Fun and each word within the category (i.e., *outgoing, friend, hang, fun, party, and girl*) would become part of this category Fun. This step was done for each of the resulted dimensions in the U.S. (i.e., an English dictionary containing each of the U.S. dimensions

was created) and in Mexico (i.e., a Spanish dictionary containing each of the Mexican dimensions was created).

2) Using these dictionaries and LIWC, the percentage of words relative to total words that were used for each dimension was assessed. Specifically, the English dictionary was run on the English text files and the percentage of words used for each U.S. dimension was assessed for each participant. Likewise, the Spanish dictionary was run on the Spanish text files and the percentage of words used for each Mexican dimension was assessed for each participant.

3) Dictionaries were translated into the other language (i.e., the English dictionary into Spanish, and the Spanish dictionary into English). Then, the translated English dictionary was run on the Spanish text files, and the translated Spanish dictionary was run on the English text files. The purpose of running the translated English dictionary on the Spanish text files was to obtain the percentage of words used by the Mexicans for each of the U.S. dimensions. Likewise, the purpose of running the translated Spanish dictionary on the English dictionaries was to obtain the percentage of words used by the Americans for each of the Mexican dimensions.

Table 9 demonstrates the means, standard deviations, and t-values for each U.S. and Mexican dimensions for both the English and Spanish text files (also see Table 16 and 17 in Appendix E for means on each of these dimensions according to ethnic group in the U.S. and university in Mexico). Note that most means are significantly higher in the English text files than in the Spanish text files for the U.S. dimensions. These differences are in the expected direction: Americans should score higher than Mexicans in the U.S. dimensions. The same would be expected for Mexican dimensions but in the

opposite direction: Spanish text files means should be higher than English text files means for the Mexican dimensions. However, this was not the case for the factor Relationships and Emotionality. In fact, Americans used more percentage of words for these two categories than Mexicans. This counterintuitive finding indicates that Americans used more words than Mexicans associated with these dimensions, but these words form part of other dimensions. The correlations shown next give some additional information about this finding. Nevertheless, it is important to note, that means might be biased due to translation mishaps (see General Discussion where this issue is addressed).

Table 9: Means, Standard Deviations, and t-Values for each of the U.S. and Mexican Dimensions: The Translated Approach

	English text files		Spanish text files			
U.S. Dimensions	*M*	*SD*	*M*	*SD*	*t-value*	*p-value*
1 Values	2.95	1.82	1.71	1.16	13.45	0.00
2 Sociability	2.38	1.41	1.51	0.99	11.64	0.00
3A Fun	1.02	0.97	0.87	0.76	2.82	0.00
3B Existentialism	1.36	1.18	0.59	0.6	13.63	0.00
4 Negativity	1.42	1.15	1.38	0.96	0.54	0.59
5 Daily Activities	1.11	1.08	1.07	0.84	0.77	0.44
6 Positivity	1.2	1.1	0.58	0.65	11.35	0.00
7 College Experience	0.78	0.81	0.5	0.51	6.85	0.00
Mexican dimensions						
1 Relationships	2.43	1.62	2.12	1.43	3.31	0.00
2 Hobbies	0.8	0.8	0.81	0.92	-0.28	0.78
3 Sociability	3.18	1.45	3.55	1.72	-3.73	0.00
4 Values	1.17	0.84	1.73	1.22	-8.64	0.00
5 Emotionality	1.62	1.07	1.12	0.9	8.21	0.00
6 Simpatía	0.49	0.57	1.17	1.28	-10.97	0.00

4) In the American sample U.S. dimensions (i.e., the percentages obtained from running the English dictionary on the U.S. sample) were correlated with Mexican dimensions (i.e., the percentages obtained from running the translated Spanish dictionary in the U.S. sample). Likewise, in the Mexican sample, the Mexican dimensions (i.e., the

percentages obtained from running the Spanish dictionary on the Mexican sample) were correlated with U.S. dimensions (i.e., the percentages obtained from running the translated English dictionary in the Mexican sample). These analyses determined the degree to which dimensions were related across cultures. For example, it was expected that the factor Values from the U.S. sample, would correlate highly with the translated factor Values of the Mexican dimensions in the English text files, and the same would result in the Spanish text files. That is, the Mexican factor Values would correlate highly with the translated U.S. factor Values.

Table 10 shows the correlations between the American dimensions and the Mexican dimensions. In the top half of the table, correlations from English text files are shown, and in the bottom half, correlations from the Spanish text files are presented. Correlations that are expected to be high in both text files are presented in *italics*. To facilitate the discussion of the results, only those correlations that were significant ($p < .001$) and above .20 are bolded.

Transcultural Dimensions

The results show that correlations are not as high as one would expect if dimensions were equivalent across cultures. However, the correlations provided information about the degree to which dimensions in each culture were related to translated dimensions from another culture. The expected high correlations were mostly found in the Spanish-text files. For example, Mexicans who wrote about their hobbies, also used words from the U.S. Daily Activities dimension; Mexicans who used words from the Sociability Mexican dimension, also used words from the U.S. Sociability dimension; Mexicans who wrote about their values, also used words from the U.S.

dimension Values. In the English text files these correlations were significant, but the *P* correlations were not as strong as those found in the Spanish text files. For the Mexican Emotionality factor, expected significant correlations were found with the factors Negativity and Positivity in the Spanish text files, but *P* correlations were small. For the English text files only one expected significant correlation was found: Mexican Emotionality with U.S. Positivity. These significant correlations demonstrate that similar dimensions across cultures relate to each other, therefore these dimensions are for the most part transcultural.

Table 10: Correlations between Intracultural Dimensions and Translated Dimensions for both the English and Spanish Text Files

In the English text files							
		Translated Mexican Dimensions					
		Relationships	Hobbies	Sociability	Values	Emotionality	Simpatía
U.S.	Values	**0.45**	-0.07	0.00	*0.12*	0.02	0.08
Dimensions	Sociability	-0.08	0.19	*0.12*	**0.22**	0.17	-0.02
	Fun	**0.41**	**0.27**	0.01	0.08	0.00	**0.30**
	Existentialism	-0.10	-0.05	**0.22**	0.00	**0.28**	-0.03
	Negativity	-0.17	-0.18	0.07	-0.12	*0.09*	0.03
	Activities	**0.31**	*0.17*	**-0.28**	**0.27**	-0.14	0.04
	Positivity	0.13	0.01	0.07	-0.11	***0.32***	0.09
	College Experience	0.11	-0.03	0.09	0.05	0.04	-0.13
In the Spanish text files							
		Mexican Dimensions					
		Relationships	Hobbies	Sociability	Values	Emotionality	Simpatía
Translated	Values	**0.30**	-0.05	-0.07	***0.34***	-0.05	0.05
U.S.	Sociability	-0.05	**0.32**	***0.26***	0.06	0.19	0.00
Dimensions	Fun	**0.49**	0.12	0.02	-0.08	-0.01	0.14
	Existentialism	-0.17	-0.03	-0.04	**0.22**	0.10	-0.10
	Negativity	-0.14	-0.16	0.14	**-0.27**	*0.14*	0.17
	Activities	**0.36**	***0.30***	**-0.20**	**0.22**	-0.04	-0.14
	Positivity	**0.25**	-0.04	-0.01	-0.17	*0.18*	0.16
	College Experience	0.08	0.09	**0.23**	-0.12	0.00	-0.05

Note: Correlations from .12 to .13 = $p < .01$ and correlations from .14 and above = $p < .001$ for the English text files. Correlations from .12 to .14 = $p < .01$ and correlations from .15 and above = $p < .001$ for the Spanish text files.

Culture-Specific Dimensions

Culture-specific Mexican dimensions, such as Simpatía and Relationships were expected to have low correlations with most of the U.S. dimensions in the English text files. Similarly, culture-specific U.S. dimensions such as Fun, Existentialism, and College Experience were expected to have low correlations with most of the Mexican dimensions in the Spanish text files. These predictions were largely true for the factors Simpatía, Fun, Existentialism and College Experience. Specifically, in the English text files the factor Simpatía, correlated only highly with Fun, which indicates that Americans who use words such as *affectionate, rancorous, jealous, sensible, responsible* tend to use words such as *outgoing, hang, fun, party, girl*.

In the Spanish text files, Fun correlated highly with Relationships, indicating that Mexicans who use words such as *outgoing, fun, party* tend to use words such as *parents, study, love, career house, family.* The factor Existentialism correlated highly with Values, indicating that Mexicans who use words such as *traits, attitude, hope, and understand* also tend to use words such as *work, money, life, God.* Finally, the factor College Experience correlated highly with Sociability, which indicates that Mexicans who use words such as *clean, organized, class, room* also use words such as *speak, prefer, fear, timid, nervous.*

The factor Relationships, correlated highly with several U.S. dimensions in the English text files. This finding did not support the idea that the culture-specific dimension Relationships should have low correlations with U.S. dimensions in the English-text files. For example, high positive correlations were found with the factors Values, Fun, and Activities. The Mexican factor Relationships reflects family roles and group activities

(*e.g., parents, house, family, eat, children*), friends and romantic relationships (*e.g., love, friends, boyfriend, relationship*), and education (*e.g., career, university, school*). Thus, the use of these themes in Americans is associated with themes about Values (*e.g., family, god, respect*), having Fun (*e.g., outgoing, party, girl, fun*) and everyday activities (*e.g., play, sport, watch*).

Summary

The correlations between intracultural dimensions and translated dimensions largely supported the qualitative analysis of which dimensions seemed to be equivalent across cultures and which dimensions appeared to be culture-specific. In general, one can conclude that the factors Values, Sociability, Emotionality, and Hobbies/Activities are similar across cultures. The factors Fun, Existentialism, and College Experience are culture-specific to Americans, and the factor Simpatía is culture-specific to Mexicans. The factor Relationships seem to be equally relevant for both the Americans and Mexicans, however, the way this factor is constructed differed across cultures. For the Mexicans, the factor Relationships reflects everyday life with family, going to school, and spending time with friends and romantic partners. For the Americans, these themes were discussed as part of their values, personality, and everyday activities.

Clearly, other interesting and understandable correlations were found. For example, in both the U.S. and Spanish text files the U.S. dimension Sociability correlated positively with Hobbies, but the Mexican dimension Sociability correlated negatively with Daily Activities. This means that Americans and Mexicans who write about sociability write more about their hobbies, and less about their everyday activities. Other interesting finding is that relationships correlated negatively with Existentialism and

Negativity in both the English and Spanish text files. This finding indicates that Americans and Mexicans who talk about relationships tend to use less negative valenced and existential words. This and other interesting findings can be drawn from the correlations using the translated approach.

D. Transcultural and Culture-Specific Dimensions and Universal Dimensions of Personality

In order to observe if intracultural dimensions of personality are correlated with hypothesized universal dimensions and other demographic variables, regression factor scores were correlated with self-reported scores for each of the Big Five (BFI) and Big Seven (IPC-7) dimensions of personality, and two demographics variables: Sex and age. Table 11 shows the means, standard deviations, t-values, and item examples for each of the BFI and IPC-7 dimensions (also see Tables 18 and 19 in Appendix F for mean differences on the BFI according to ethnic group in the U.S. and university in Mexico).

In order to simplify the discussion of the results, only correlations between the BFI and intracultural dimensions in the U.S. and in Mexico are shown. The discussion for the Big Seven findings is not included here in part because similar findings resulted between the Big Five and the 5 similar counterpart dimensions from the IPC-7. Furthermore, just a single interesting correlation was found between the Positive and Negative Valence dimensions and intracultural dimensions. Thus, including the findings in this section would not provide meaningful information (Appendix D shows the correlations between the IPC-7 and intracultural dimensions).

Table 12 depicts the correlations between intracultural U.S. and Mexican dimensions and BFI self-reported variables. Recall that the culture-specific dimensions

Existentialism and Fun loaded onto a single factor, but with oppositely valenced loadings (i.e. Existentialism words were all positive loadings on Factor 3, and Fun words were all negatively loaded onto Factor 3). In the Table 12 they are presented together and Fun is in a parenthesis followed by a negative sign to represent that Existentialism had positive loadings and Fun negative loadings. The resultant correlations were only weakly related to the Big Five; however, most correlations were higher than those found by Chung and Pennebaker (in press). Due to the large number of comparisons, a more stringent *p* level was adopted for significance tests ($p < .001$). These correlations are shown in bold.

Table 11: Means, Standard Deviations, and t-Values for BFI and IPC-7 Dimensions for both Americans and Mexicans

	Americans		Mexicans		t-value	Sig.	Example of Items
BFI-Dimensions	*M*	*SD*	*M*	*SD*			
Extraversion	3.45	0.84	3.55	0.82	-1.95	0.05	*is talkative; is full of energy*
Agreeableness	3.83	0.66	3.64	0.59	4.90	0.00	*is helpful and unselfish with others; has forgiving nature*
Conscientiousness	3.55	0.66	3.49	0.67	1.52	0.13	*does a thorough job; is a reliable worker*
Emotional Stability	3.16	0.83	2.86	0.82	6.00	0.00	*Is relaxed, handles stress well; is emotionally stable*
Openness	3.69	0.64	3.97	0.60	-7.36	0.00	*Is original, comes up with new ideas; is inventive*
IPC-7 dimensions							
Positive Emotionality	3.07	0.63	3.11	0.63	-0.98	0.33	*is talkative; is gregarious, sociable; is lively animated*
Negative Emotionality	2.26	0.61	2.52	0.57	-6.41	0.00	*is jumpy and jittery; feels guilty for no reason*
Conscientiousness	2.62	0.60	2.65	0.59	-0.78	0.44	*is consistent predictable; is well-organized*
Agreeableness	2.84	0.54	2.81	0.60	0.99	0.33	*avoid difficulties with other people, is easy on others*
Unconventionality	2.30	0.55	2.59	0.53	-8.13	0.00	*is unusual, is politically radical*
Positive Valence	2.84	0.57	3.10	0.55	-6.80	0.00	*is outstanding, superior; is excellent, first rate*
Negative Valence	1.20	0.35	1.27	0.41	-2.65	0.01	*is wicked, evil, is cruel, mean; is vicious, nasty*

Table 12: Correlations between Cross-Cultural and Culture-Specific Dimensions with Hypothesized Universal Dimensions, Sex, and Age

	Big Five Inventory					demographics	
U.S Dimensions	Extraver.	Agree.	Conscient.	Emot. Sta.	Open.	sex	age
Transcultural							
Daily Activities	**0.15**	0.02	0.03	0.01	0.09	-0.06	-0.04
Sociability	**-0.19**	-0.06	-0.05	-0.05	0.12	0.04	-0.04
Values	**0.28**	0.11	**0.16**	0.05	-0.09	0.09	-0.04
Positivity	**0.16**	0.04	-0.08	0.06	0.05	-0.02	0.01
Negativity	**-0.14**	0.01	**-0.17**	**-0.20**	-0.12	**0.21**	-0.02
Culture-Specific							
Existentialism (-Fun)	-0.01	-0.05	0.05	0.02	**0.21**	-0.02	0.12
College Experience	0.08	0.08	**0.16**	-0.07	-0.11	0.13	0.04
Mexican Dimensions							
Transcultural							
Hobbies	0.09	**0.16**	0.10	0.04	0.09	0.11	**0.17**
Sociability	**-0.20**	-0.08	-0.12	**-0.15**	-0.04	0.10	0.07
Values	0.03	-0.01	0.03	0.06	**0.19**	-0.12	**0.18**
Emotionality	0.00	-0.05	-0.02	-0.07	0.08	**0.17**	0.04
Culture-Specific							
Simpatía	0.13	0.12	**0.17**	0.03	0.02	**0.19**	-0.02
Relationships	0.10	0.06	0.07	0.03	-0.09	0.11	0.00

Note: Correlations are based on regression factor scores; Agree. = Agreeableness; Conscient. = Conscientiousness; Emot. = Emotional; Extraver. = Extraversion; Open. = Openness; Sta. = Stability

Transcultural Dimensions

Transcultural dimensions were expected to correlate similarly with hypothesized universals. For example, both the American and Mexican Values dimension should be correlated with similar dimensions from the Big Five. This would provide additional information about how comparable transcultural dimensions are across cultures. Next, the results of the most meaningful correlations between transcultural dimensions of personality and hypothesized universal dimensions are discussed.

Extraversion was negatively correlated with sociability for both the U.S. and Mexican participants. This shows that for both cultures, introverted individuals tended to

describe themes about insecurities of talking in public, and fear of expressing themselves. Chung and Pennebaker (in press) also reported that Sociability correlated negatively with Extraversion.

Extraverted individuals in the U.S. also used more words about daily activities (*e.g., play, sport, watch, music*), their values (*e.g., family, important, strong, love life*), positive words (*e.g., laugh, humor, sense, sarcastic*) and less negative words (*e.g., hurt, upset*, *feel, mad)*. Extraversion was not related to any of the remaining transcultural Mexican dimensions.

Agreeableness did not correlate highly with any of the U.S. transcultural dimensions. Agreeable Mexican participants, however, wrote more about their hobbies (*e.g., music, movies, dance, read*). Conscientiousness did not correlate highly with any of the Mexican transcultural dimensions. Conscientious American participants, however, tended to write about their values, and used fewer negative words.

Americans high on Emotional Stability tended to use fewer negatively valenced words. Mexicans high on Emotional Stability used fewer sociability words. Chung and Pennebaker (in press) also reported that individuals low in emotional stability tend to use more negatively valenced words (*e.g., sad, lonely, angry*).

There were a few strong positive correlations between sex, age, and cross-cultural dimensions. Specifically, females in the U.S. used more negatively valenced words, and females in Mexico used more emotional words (*e.g., sentimental, hate, sad, happy*). On the other hand, older Mexican participants wrote about their hobbies and values.

Culture-Specific Dimensions

Openness correlated positively with U.S. culture-specific dimension Existentialism (-Fun). This finding indicates that Americans high in Openness use words such as *traits, attitude, hope, understand*, but do not tend to use many Fun words such as *outgoing, friend, party*. Conscientiousness correlated positively with the other culture-specific U.S. dimension (i.e., College Experience). Specifically, conscientious individuals tend to use more words such as *clean, organized, class, room*.

Extraversion correlated positively with the Mexican culture-specific dimension Simpatía. Specifically, extraverted individuals tended to use more words such as *affectionate, honest, responsible.* Similarly, Conscientiousness correlated positively with Simpatía. Interestingly, no strong correlations were found with any of the Agreeableness dimensions. This might be to the fact that Mexicans tend to show a bias when responding to self-reports of Agreeableness (see Ramírez-Esparza et al., 2007). In fact in this study, as has been reported in other studies, Mexican participants scored lower in Agreeableness than Americans (see Table 11), suggesting that this bias might have affected possible correlations between the culture-specific dimension Simpatía and the self-reported dimensions. The culture-specific dimension Relationship did not correlate highly with any of the self-reported variables.

Finally, the only strong correlation between demographics variables and culture-specific dimensions was between Simpatía and sex. Specifically, women were more likely to use words such as *affectionate, rancorous, honest, jealous, sensible, responsible.*

Summary

The correlations between intracultural dimensions and hypothesized universal dimensions were conceptually related. Unfortunately, the same pattern of correlations was not found between transcultural dimensions and the Big Five dimensions. Both American Sociability and Mexican Sociability were several of the few dimensions that showed the same pattern of correlations with Extraversion. This was not the case for most of the transcultural dimensions, showing that most of the resultant dimensions using the MEM are, for the most part, culture-specific. In the discussion, this issue is further discussed.

Chapter 7: General Discussion

This study used an intracultural-transcultural design to define dimensions of personality in Americans and Mexicans. Specifically, the Meaning Extraction Method (MEM) was used to establish intracultural dimensions of personality from open-ended personality descriptions in Americans and Mexicans. The translation approach was used to observe if dimensions are transcultural or culture-specific. Finally, intracultural dimensions were correlated with hypothesized universal dimensions of personality.

DEFINING INTRACULTURAL DIMENSIONS OF PERSONALITY

An intracultural approach was used in this study to define the most relevant and salient dimensions of personality. Using the MEM, it was possible to capture ideas, concepts, values, attitudes, and behaviors most meaningful for Americans and Mexicans. By factor analyzing the most frequent content words used in self-descriptions, it was possible to define coherent dimensions of personality in Americans and Mexicans. Interestingly, both cultures talked about hobbies or daily activities, sociability, emotionality, and values. In the American sample three dimensions emerged that were not present in the Mexicans (i.e., Fun, Existentialism, and College Experience). In the Mexican sample two dimensions emerged that were not present in the Americans (Relationships and Simpatía).

Some of the dimensions found in this study were also found by Chung and Pennebaker's (in press) study. However, not all the dimensions were equivalent across these two studies. Since Chung and Pennebaker asked participants to look at themselves in the mirror, participants concentrated on more superficial aspects of their personality, and only a few factors were similar. Specifically, from this study Fun and Sociability

together resembled Sociability from Chung and Pennebaker's; Daily Activities and Existentialism were similar across studies, the factors Relationships and Ambition together were similar to the factor Values from this study.

Do intracultural dimensions found in this study match intracultural dimensions found in other lexical approaches?

The Big Five (Goldberg, 1981, 1990) and the Big Seven dimensions (Tellegen & Waller, 1987) emerged from dictionary-based lexical approaches in the English language. The only difference between the Big Five and the Big Seven is that the latter used less restrictive criteria in the selection of personality terms (i.e., also state and evaluative terms were included). A few dimensions that emerged in this study can be compared to the Big Five and the Big Seven. Specifically, the dimensions Sociability and Fun are comparable to Extraversion (or Positive Emotionality from the Big Seven); College Experience to Conscientiousness; Negativity and Positivity to Negative and Positive Valence from the Big Seven, respectively. However, as is later discussed, correlations with Big Five and Big Seven self-reports and the intracultural dimensions do not entirely support a parallel comparison.

The intracultural dimensions found in Mexicans in this study can also be compared to dimensions found in other lexical studies done in Mexico. Recall that LaRosa and Díaz-Loving (1991) performed a large scale self-concept study where they found 9 intracultural dimensions of personality. Only three dimensions from this study are comparable to La Rosa and Díaz-Loving's study: Sociability to Social Expressive; Emotional to Emotionality, and Social Affiliative to Simpatía.

In short, only a few dimensions that emerged in this study can be compared to dimensions from other intracultural approaches. However, the intracultural methodology used in this study is unique in many ways. Most dictionary-based lexical studies select personality terms (which most of the times are adjectives) from a dictionary within a culture or language, and then individuals rate themselves along a dimension for each selected term. In contrast the MEM analyzes what are the most salient or chronically activated words that people use when they are openly asked to describe their personality. The method uses text analytic tools and factor analyses to observe how people naturally construct their personality within a culture. Finally, in this study a non-restrictive approach was used where all content words were included in the analyses.

Advantages of the MEM

One of the most powerful advantages of the MEM is that it is able to capture how people naturally construct their self-concepts. By determining how words co-occur in open-ended descriptions, and how these words cluster together, it is possible to learn the dimensional thinking of people when they describe their personalities. For example, people might think I like to have fun, by what sort of behaviors, attitudes, and beliefs I might mention in order to describe that aspect of myself. Indeed, Americans who use the word *outgoing,* also use words like *friend, hang, fun, party, and girl. S*imilarly, Mexicans who use the word *music* also use words like *movies, dance, read, listen.* Thus, in both cultures when people describe their personality they think along dimensions and they use certain words in coherent clusters to define those dimensions.

Another unique advantage of the MEM is its suitability to study personality across cultures. Since the method is inductive, it is possible to capture what are the most

relevant dimensions of personality in people within their culture and language. This method avoids imposing constructs, theories or list of adjectives onto individuals. Moreover, translation issues become relevant only at the end of the process. For example, by using this approach it was possible to learn that for both Americans and Mexicans one relevant dimension is sociability. More interesting, in both cultures Sociability captures the same idea, but different words are used. Americans who use words such as *group* also use words such as *close, listen, situation, comfortable, open, enjoy, social, problem.* Likewise, Mexicans who use the word *speak* also use words such as *prefer, fear, express, trust, need, insecure, timid, nervous.* Although words are different in English and Spanish themes, the dimensions denote insecurities of talking in groups, of expressing themselves, the challenges of being open, and being shy and timid.

A third advantage from the MEM is that it can control to a certain degree self-presentational biases. For example, it is well known that Americans show a self-enhancement bias when responding to self-reports (Heine & Lehman, 1997; Heine & Renshaw, 2002), especially when responding to highly socially desirable traits (Paulhus, Bruce, & Trapnell, 1995). Alternatively, Mexicans, when responding to these social desirable traits, manifest a modesty bias (Ramírez-Esparza et al., 2007). People can present themselves as socially desirable or self-enhancing in self-descriptions. However, the MEM is merely concerned with whether or not people used certain words, not their levels of a particular trait. The MEM is essentially blind to context, and so it does not measure whether people said "I'm not a liar" or "I'm absolutely a total awesome liar"; it is merely concerned with the fact that the person is thinking along a lying dimension.

Limitations of the MEM

One of the limitations of the MEM is that it requires more steps to extract dimensions from natural language text, relative to computing scores on Likert rating scales (i.e., spell-check of texts, frequency word counts, development of dictionaries, and finally factor analyses). Furthermore, selecting the number of factors and labeling them can be somewhat subjective. Although in this study, the number of factors was selected according to the scree plot (i.e., number of factors at the elbow bend), there are other criteria to consider in selecting the number of appropriate factors (e.g., eigenvalues, percent of variance explained, and number of factors before the elbow end). Also, many times there is little agreement as to how to label the factors. Thus, ultimately the researcher has to be artistic and come-up with labels that comprise most of the words within a dimension.

The dimensions that are extracted from the MEM may not be relevant to all respondents, whereas established trait rating scales are capable of producing a score on each dimension for each respondent. In using the MEM, one can estimate the main dimensions of salience across a corpus, but it is unlikely that we are extracting dimensions that are relevant to all texts in the corpus.

DEFINING CULTURE-SPECIFIC AND TRANSCULTURAL DIMENSIONS OF PERSONALITY

Since this study used an intracultural-transcultural design it was fundamental to establish transcultural and culture-specific dimensions. By doing a qualitative analysis, it was possible to define which dimensions were culture-specific and which dimensions were transcultural. However, by using the translation approach, it was possible to

quantify the relationship between intracultural U.S. dimensions and intracultural Mexican dimensions. These analyses showed that, by and large, the dimensions Values, Sociability, Hobbies/Daily Activities, and Emotionality are transcultural dimensions. Fun, Existentialism, and College Experience were culture-specific for the Americans, and Simpatía was culture-specific for the Mexicans. The translation approach showed that the Mexican dimension Relationships was *partially* culture-specific for the Mexicans. Specifically, Americans also used words related to the factor Relationships (*e.g., parents, years, love, friends, child, family, school*); however, they used these words along different dimensions: In the factors Values (*e.g., family, love*), Fun (*e.g., friends*), and Daily Activities (*e.g., years, child, school, parents*).

Are the culture-specific dimensions reflecting well-known cultural frameworks of Americans and Mexicans?

American participants reflected their independent-self in the factors Existentialism, College Experience, and Fun. The Existentialism factor supports the contention that people with independent selves tend to describe themselves in more abstract and global ways (see Markus & Kitayama, 1998). For example, American participants used words such as *traits, attitude, hope, understand, personality.* The College Experience factor mirrored the experience of starting a life as individuals independent of their families. In other words, they talked about how it is like the College Experience: They used words as *clean, organized, class, room, speak.* The factor Fun supported the idea that the independent self socializes or relates to others as means of obtaining something (Markus & Kitayama, 1991, 1998). Americans use words such as

outgoing, fun, hang, and girls. Going to parties is to have fun, hang out with friends, and meet girls.

In contrast, the Mexican participants mirrored their interdependent self in the factor Relationships. This dimension clearly reflects how everyday activities go hand in hand with other human beings: They use words such as *study, eat, help, love, university, career,* with words such as *parents, friends, boyfriend, family, relationship.*

Finally, the Mexican dimension Simpatía mirrored various aspects of the well-established cultural script in Mexicans. Indeed, words such as *kind, noble, affectionate*, *tender, sensible, respect, sincere, and honest* supported the idea that a person who is *simpático* is kind and polite. Words such as *rancorous, jealous, proud, angry, tolerant, and fun* supported the notion that being *simpático* is associated with an easygoing outlook. Finally, the words *responsible, devoted, faithful, and loyal* supported the idea that *Simpatía* is related to promoting harmony in relationships by avoiding conflict and emphasizing positive behaviors.

There were no culture-specific dimensions that supported the idea that Americans are more achievement oriented. However, it is interesting to note that Americans used time markers in the factor Daily Activities (*e.g., years, day*). Furthermore, this factor and the factor College Experience mirrored a concern for things that need to be done, like a to-do list or activities that have a space in time. For example, in both factors Americans used words such as *day, stress, work, years, clean, plan, and start.* This word choice supports the well-known notion that cultures like the U.S. are future-oriented (Hall, 1983). Americans place emphasis on planning for the future and they are concerned about being punctual and efficient (Levine & Norenzayan, 1999). In contrast, Mexicans are

characterized as present-oriented culture (Hall, 1983; Marín & Marín, 1991), thus, they are not planners, punctual or efficient (Levine & Norenzayan, 1999). Indeed Mexicans' word choice did not reflect the idea that they are thinking about accomplishing tasks within a time frame.

Advantages and Limitations of the Translated Approach

One of the advantages of the translated approach is that it is relatively simple to translate list of words within a factor into another language. Thus, by using this approach it was possible to observe to what degree groups of words are used in both cultures. For example, by translating words used in the U.S. dimension Values into Spanish, we learned that Mexican individuals who use words in the Mexican Values dimension (*e.g., values, learn, society, accomplish, work)* also use words that are used in the U.S. dimension Values (*e.g., family, important, strong, love, life).* This suggests that across cultures, people describe their personality in a dimension that we label as Values.

The most apparent limitation of the translated approach is that it is based on translation! Although translating single words can be thought of as a straightforward task, when one looks closer to possible translations that could be used for each word, the task becomes extremely convoluted. Even more, there are some words that have a clear translation in the other language, but those words are not used as often or in the context that is meant in the other language. For example, in Mexico it is common to say "No soy una persona rencorosa" (literally translated as "I am not a rancorous person"). However, in English most people would say "I don't like to hold grudges". Thus, by translating the words into their literal meaning in another language, its intended meaning may get lost in translation.

Another limitation of the translated approach is the way dictionaries are created in English and Spanish. Recall that each category was created including the root words within a dimension. For example, the dimension Hobbies included all the root words of *music, movies, dance, read, etc.* in both English and Spanish. This approach might have biased the means of word usage within each dimension across languages. In the English language, root words are simple to define and the chances of including all word forms are higher. For instance the root word lov* includes love, loves, loving, loved, lovable. However, in Spanish, in order to include all word forms related to love one has create a dictionary with amor, amó, ama*, amo* (note that am* can't be used because there is a risk of including words not associated with love such as 'ampliamente'). This limitation likely resulted in higher means in the English sample than in the Spanish sample, making the means difficult to interpret (see Table 9).

INTRACULTURAL DIMENSIONS AND HYPOTHESIZED UNIVERSAL DIMENSIONS

Cross-cultural personality researchers that perform intracultural-transcultural designs typically correlate intracultural dimensions with hypothesized universal dimensions of personality (e.g., Big Five and Big Seven self-reports). In this study correlations between intracultural dimensions and the well-established dimensions of personality were also performed.

Although correlations between intracultural dimensions and the Big Five were stronger than those found by Chung and Pennebaker (in press), the dimensions did not parallel those of the Big Five. As discussed earlier, the method used in this study differs in significant ways from the dictionary-based lexical approach from which the Big Five

was derived. There were few dimensions that resemble the Big Five and the Big Seven, but when actual correlations were computed, weak associations emerged.

As expected, the English intracultural dimension Sociability correlated negatively with Extraversion, but this was not the case for Fun. As predicted the dimension College Experience correlated with Conscientiousness, but Positivity did not correlate with Positive Valence, nor with Negative Valence from the Big Seven. As anticipated, Negativity correlated negatively with Positive Valence, but not with Negative Valence. Only half of the expected correlations were supported. Chung and Pennebaker (in press) argue that the structure derived from open-ended personality descriptions do not parallel the Big Five because of the response format. In open-ended formats or in a 'spontaneous' approach, individuals describe themselves by generating categories that are most salient and chronically activated. In contrast, when rating scales or in the 'reactive' approach, participants are forced to respond to stimuli provided by the experimenter (Chaplin & John, 1989).

The 'spontaneous' approach seems to be deriving dimensions that reflect how participants perceive who they are, not actual dimensions of personality. In other words, the intracultural dimensions reflect *schemas* that participants hold about themselves (Kelly, 1955). For example, self-schemas shape how individuals perceive situations, how they remember those situations, and the feelings that result from those situations (Cantor, 1990). Thus, an individual with a shy-schema might elaborate on a situation (e.g., talking in class), memories of the event (e.g., making errors), and the feelings that emerge in that situation (e.g., nervous). In short, the 'spontaneous' approach can be more useful to define different schemas that participants hold about their selves.

It was also expected that transcultural dimensions (i.e., Daily Activities/Hobbies, Sociability, Values, and Emotionality) would correlate similarly with the Big Five and Big Seven dimensions across cultures. Unfortunately, correlations widely varied across cultures. Extraverted individuals in the U.S. wrote about their daily activities, whereas agreeable individuals in Mexico wrote about their hobbies. Introverted individuals were less likely to use words associated with sociability in both the U.S. and in Mexico, but individuals low in stability in Mexico, were more likely to use sociability words. This indicates that in the U.S. and in Mexico the Sociability dimension denotes introversion, but for Mexicans is a pattern of behavior that might be psychologically problematic. Extraverted and conscientious Americans wrote about their values, but Mexicans open to experiences wrote about their Values. Extraverted Americans used more positive valence words and less negative valence words; and conscientious and more emotionally stable American individuals used less negative valence words. Writing about emotions was not related to any of their self-reported personality dimensions in Mexicans. These inconsistent sets of findings suggest that the search for cross-cultural and cross-language personality dimensions is a challenging endeavor.

Does this mean that culture and personality cannot be separated? Indeed, personality and cultural scientists have debated this question for years. For example, cross-cultural psychologists portray personality as independent of culture, and state that dispositions and traits are universal (Church, 2000; 2001). They view culture as an independent variable that influences mean levels of universals across cultures. From this idea, questionnaires that capture the Big Five dimensions, for example, have been adapted for other cultures and languages, and large scale studies have analyzed mean

differences across cultures (see McCrae, 2001; McCrae et al., 2005; Ramírez-Esparza et al, 2006, Schmitt et al., 2007, Terraciano et al., 2005).

In contrast, cultural psychologists (also known as "ethno psychologists", "psychological anthropologists") view culture and personality as phenomena creating each other, or "mutually constitutive" (Miller, 1997; Shweder & Sullivan, 1990). For example, Markus and Kitayama (1998) write "A cultural psychological approach does not automatically assume that all behavior can be explained with the same set of categories and dimensions and first asks whether a given dimension, concept, or category is meaningful and how it is used in a given cultural context" (p. 66).

Perhaps deriving personality dimensions from open-ended personality descriptions is a cultural psychological approach. Although the MEM defines dimensions using text-analytic tools and factor analyses, it seems to be more of an anthropological tool. The method extracts what is meaningful for individuals when writing about their personality in their own cultural context and in their own language. Thus, this approach was not able to separate culture from personality and not surprisingly, transcultural dimensions were extremely difficult to define.

By arguing that the MEM is an anthropological tool, it is not meant to say that there are not universal dimensions of personality. Indeed, in this study, with a quick qualitative analysis it was possible to observe cross-cultural dimensions. However, when correlations were conducted with the self-reported Big Five dimensions, we learned that culture influences how personality is expressed in significant ways. Culture is not only an independent variable that affects mean levels of dimensions, but it influences how each dimension is construed.

Advantages and Limitations of Correlating Intracultural Dimensions with Hypothesized Universal Dimensions

Using self-reports in intracultural-transcultural designs is a straightforward, simple, and economical way to define culture-specific and universal dimensions. The questionnaires used in this study not only captured the well-established dimensions in the English and Spanish languages but they are valid and reliable in both English and Spanish. However, the use of this 'reactive' approach in cross-cultural research runs into two well-known problems: translation and response-style biases.

Translation of questionnaires has been one of the biggest challenges in cross-cultural research. Although there are methods effective at improving accuracy (see Brislin, 1980; van de Vijver & Leung, 1997a, 1997b), there is evidence suggesting that merely the language of the questionnaire can bring out different nuances of self-views, thoughts and feelings on behalf of the individuals who complete the questionnaire (Bond & Yang, 1982; Ramírez-Esparza et al., 2006; Ramírez-Esparza et al., 2007; Yang & Bond, 1980). Furthermore, culture influences self-presentational styles in questionnaires (i.e., self-enhancement and modesty biases) Thus, correlations with self-reported dimensions and intracultural dimensions can be difficult to interpret if translation and response-biases are influencing personality means.

LIMITATIONS OF THIS STUDY

In this study, a sample of students was used because it was the most efficient way of comparing cross-cultural phenomena. Students are relatively similar across cultures, which increases the chances that differences across cultures are due to true cultural phenomena and not to population differences or different sampling procedures. However,

including only students was also a limitation. Neither students in the U.S. nor students in Mexico are a representative sampling of a wider American and Mexican population. A study with a population of individuals from different socio-economic status, ethnic background, and age would have provided a more comprehensive evaluation of the American and Mexican personality.

A second limitation of this study is that samples were overrepresented by women, especially the Mexican sample. This might have slightly influenced how personality was constructed. It is important to note, though, that many studies within psychology are overrepresented by women. Thus, this study was not the exception. In Mexico, for example, in Psychology classes women constitute the majority. Also, women are more willing to participate in studies, and if they participate they are more likely to take the activity more seriously. For example, 9.5% of the Mexican women who participated in the study wrote less than 75 words in their self-descriptions, but 15% of the Mexican men who participated in the study wrote less than 75 words in their self-descriptions. In the U.S. the difference was not as marked as in Mexico but also a slightly greater percentage of American men (i.e., 4.3%) than women (3.7%) wrote less than 75 words in their self-descriptions. A combination of these factors led this sample to be overrepresented by women.

A third limitation of this study is that samples within the U.S. and within Mexico are not homogenous. For example, in the U.S. there are several ethnicities and within Mexico participants are from different cities and different universities. However, it is important to note that in Appendices E and F the mean differences for intracultural and Big Five dimensions according to ethnicity and university were not significant for most

of the comparisons. This indicates that although the sample was diverse in both the U.S. and in Mexico, this did not have an apparent impact on how personality was construed.

FUTURE DIRECTIONS

The intracultural design used in this study gave the opportunity of analyzing how culture and personality are intimately related. However, for future studies it is important to analyze the degree in which language is playing a role in how people describe their personality. There are two follow-up studies that could be done to address this issue.

The first study would be to ask Australians and Spaniards to describe their personality in their respective language. Do Australians construct their self-concepts in the same way as Americans? Do Spaniards' dimensions of personality are similar to Mexicans' dimensions of personality? If dimensions are similar across cultures with the same language, one can argue that language influences greatly who you are. However, if dimensions are different one can argue that culture and context influences greatly who you are.

The second study would be to ask the same individuals to describe their personality in English and Spanish. Do Mexican-American bilinguals construct their personalities the same way across languages? Or to they differ in ways congruent with the language that they are using? Bilingual-designs have been typically used in the area of personality research to observe the reliability of a questionnaire across languages. Accordingly, researchers expect that if the same individual provides answers to a personality questionnaire in English and in Spanish, correlations will be high across languages, suggesting that scales are measuring the same construct across languages. The same phenomenon can be expected when bilinguals describe themselves in English and

in Spanish. However, there is evidence that bilinguals slightly change their personality according to the language they use when they respond to self-reports (Ramírez-Esparza et al., 2006). Thus, one could also expect that language will trigger different memories, thoughts, and feelings in bilinguals when describing their personality in different languages, and therefore dimensions across languages might change. If there are similar dimensions between Americans and bilinguals living in the U.S., then one can argue that contexts influences who we are. But, if bilinguals change their personality to match the personality of their two language cultures, then one can argue that language exerts a particularly powerful influence.

The inherent power of the MEM to act as an "anthropologist" can serve to provide some answers to ongoing debates in the area of personality, culture, and language. Is culture an independent variable of personality? Are there universals of personality? Are culture and personality intimately related? Is personality influenced by the context? To what degree language is related to personality? In this study a few answers were provided, but the path to seek for more answers is wide open.

Appendix A: Dimensions of Personality from Adjectives in the U.S.

Table 13: Adjectives from Americans' Self-Descriptions: A Varimax-Rotated Principal Components Analysis

	Personality Factors		
	Factor 1 Sociability	Factor 2 Emotionality	Factor 3 Agreeableness
Shy	**0.59**	-0.06	-0.05
Outgoing	**0.41**	-0.07	0.11
Loud	**0.37**	-0.03	0.11
Comfortable	**0.37**	-0.10	**-0.20**
Quiet	**0.33**	**0.23**	-0.08
Open	**0.28**	-0.04	0.02
Afraid	**0.27**	0.19	0.00
Social	**0.24**	-0.15	**-0.22**
Friendly	**0.22**	0.00	-0.01
Competitive	**-0.23**	**-0.20**	-0.10
Confident	**-0.20**	-0.08	-0.06
Calm	-0.16	-0.06	0.15
Active	0.11	0.03	-0.10
Emotional	0.10	0.10	-0.07
Mad	0.16	**0.49**	0.09
Upset	0.07	**0.48**	-0.02
Angry	-0.17	**0.35**	-0.02
Negative	-0.17	**0.29**	-0.01
Organize	0.00	**0.28**	0.06
Clean	-0.06	**0.27**	0.05
Happy	0.12	**0.25**	0.12
Hurt	0.13	**0.21**	-0.07
Honest	0.07	**-0.41**	0.19
Intelligent	**0.20**	**-0.26**	0.15
Creative	0.00	0.18	0.13
Stressed	0.08	0.16	-0.04
Caring	-0.06	-0.12	**0.46**
Trustworthy	0.09	**-0.22**	**0.46**
Loving	-0.01	**-0.20**	**0.42**
Smart	-0.08	**0.21**	**0.33**
Giving	-0.05	0.05	**0.29**
Funny	0.11	0.11	**0.28**
Sarcastic	0.10	0.07	**0.28**
Positive	-0.16	0.19	**0.25**
Optimist	-0.02	0.08	**0.23**
Lazy	**0.22**	0.03	**0.23**
Nice	0.11	0.00	**0.22**

Table 13: Continues

	Factor 1 Sociability	Factor 2 Emotionality	Factor 3 Agreeableness
Fun	0.16	-0.08	**0.20**
Introverted	**0.23**	-0.03	**-0.35**
Independent	0.01	-0.02	0.11

Note: Boldface indicates factor loadings greater than or equal to .20; *KMO* = .50 Bartlett's test of sphericity = 1167.69, $p < .001$; Factors were based on a scree of eigenvalues for the principal components; the first 3 factors accounted for 12.37% of the total variance.

Appendix B: Dimensions of Personality from Adjectives in Mexico

Table 14: Adjectives from Mexicans' Self-Descriptions: A Varimax-Rotated Principal Components Analysis

	Personality Factors			
	Factor 1	Factor 2	Factor 3	
	Amiability	Simpatía	Honesty	Emotionality
ENOJONA/irritable	**0.49**	0.00	0.14	
SENTIMENTAL/sentimental	**0.48**	-0.04	0.17	
DIVERTIDA/fun	**0.41**	0.19	-0.10	
RENCOROSA/rancorous	**0.41**	0.14	0.00	
INSEGURA/insecure	**0.39**	-0.06	-0.04	
TRISTE/sad	**0.37**	0.02		**-0.24**
TIERNA/tender	**0.35**	0.02	**0.33**	
CARIÑOSA/affectionate	**0.34**	**0.29**	0.03	
TÍMIDA/timid	**0.29**	-0.14	-0.02	
CELOSA/jealous	**0.28**	0.18	-0.06	
FIEL/loyal	**0.28**	-0.01	**0.20**	
EXTROVERTIDA/extraverted	**0.25**	0.03	-0.07	
ORGULLOSA/proud	**0.22**	0.11	0.07	
NERVIOSA/nervous	**0.21**	-0.13	0.12	
AGRADABLE/agreeable, pleasant	**0.20**	-0.08	-0.12	
SENSIBLE/sensible	0.16	**0.50**	-0.15	
TOLERANTE/tolerant	-0.05	**0.44**	0.09	
INTELIGENTE/intelligent	0.12	**0.40**		**-0.33**
AMABLE/kind	0.06	**0.36**	0.12	
PERFECCIONISTA/ perfectionist	-0.13	**0.35**	0.03	
NOBLE/noble	0.04	**0.35**	0.15	
INDEPENDIENTE/independent	0.10	**0.33**	0.00	
VOLUBLE/moody	**-0.20**	**0.31**	**0.21**	
RESPONSIBLE/responsible	0.11	**0.26**	0.01	
EGOÍSTA/selfish	0.09	**0.26**	0.10	
SOCIABLE/sociable	0.03	**0.23**	-0.13	
ESPECIAL/special	0.11	**-0.23**	-0.05	
IMPULSIVA/impulsive	-0.17	0.18	0.17	
AMIGABLE/friendly	0.01	0.16	0.01	
CREATIVA/creative, inventive	0.00	0.15	-0.12	
ABIERTA/open	-0.04	0.13	-0.11	
INTROVERTIDA/introverted	0.06	-0.07	0.05	
SINCERA/sincere	0.13	0.15	**0.53**	
HONESTA/honest	0.07	**0.20**	**0.49**	
ENTREGADA/devoted	0.15	0.14	**0.44**	
PACIENTE/patient	-0.08	0.13	**0.29**	

Table 14: Continue

	Factor 1	Factor 2	Factor 3	
	Amiability	Simpatía	Honesty	Emotionality
OPTIMISTA/optimistic	0.00	0.09		**-0.28**
FELIZ/happy	0.16	0.00		**-0.25**
ALEGRE/cheerful, joyful	0.17	0.15		**-0.23**
SOCIAL/social	-0.03	0.05		**-0.23**
TRANQUILA/tranquil	-0.09	0.18	0.19	

Note: Boldface indicates factor loadings greater than or equal to .20; *KMO* = .56, Bartlett's test of sphericity = 1238.61, $p < .001$; Factors were based on a scree of eigenvalues for the principal components; the first 3 factors accounted for 13.85% of the total variance.

Appendix C: Demographic Questionnaire

Are you ○ Male or ○ Female

Date of birth (MM/DD/YYYY) _ _ /_ _/_ _ _ _

Where would you place your parents in the following spectrum for social class?

- ○ Working class
- ○ Lower-middle class
- ○ Middle Class
- ○ Upper-middle Class
- ○ Upper Class

If financially independent, where would you place yourself on the following spectrum for social class? (if you are not financially independent, please choose 'not financially independent').

- ○ Working class
- ○ Lower-middle class
- ○ Middle Class
- ○ Upper-middle Class
- ○ Upper Class
- ○ Not financially independent

Indicate your hometown: _____

Indicate your years of education:

- ○ Less than 12 years
- ○ Currently in high school
- ○ High school graduate
- ○ Currently in college
- ○ College graduate
- ○ Currently in graduate or professional school
- ○ Doctoral or professional school graduate

Indicate your ethnicity:

- ○ American Indian or Alaskan Native
- ○ Asian
- ○ Black or African American
- ○ Latino or Hispanic
- ○ Native Hawaiian or Pacific Islander
- ○ White

Indicate which culture you most identify with: ○ American or ○ Other

If you chose 'Other', please indicate which culture you most identify with: _____

Indicate the number of years you have lived in the U.S.: _____

Appendix D: Intracultural and Big Seven Dimensions

Table 15: Correlations between Cross-Cultural and Culture-Specific Dimensions with the IPC-7 Dimensions

-	The Inventory of Personality Characteristics						
U.S. Dimensions	P. Emot.	Agree.	Conscient.	N. Emot.	Unconvet.	P. Val.	N. Val.
Transcultural							
Daily Activities	**0.15**	-0.07	-0.07	0.00	0.03	0.12	0.01
Sociability	**-0.17**	0.09	0.01	0.05	**0.17**	-0.04	-0.07
Values	**0.30**	-0.05	0.04	-0.03	-0.13	0.13	-0.11
Positivity	**0.17**	0.03	**-0.16**	-0.12	0.11	0.04	-0.02
Negativity	-0.08	0.13	-0.04	**0.17**	-0.04	**-0.18**	-0.04
Culture-Specific							
Existentialism (-Fun)	-0.06	-0.06	0.00	-0.02	**0.15**	0.01	0.08
College Experience	0.08	-0.01	**0.24**	0.06	-0.05	0.00	-0.05
Mexican Dimensions							
Transcultural							
Hobbies	0.04	0.02	0.08	-0.02	0.03	0.10	**-0.14**
Sociability	-0.10	0.03	-0.05	0.10	**0.16**	0.00	-0.03
Values	-0.01	**-0.17**	-0.04	0.00	**0.18**	0.10	0.09
Emotionality	0.07	-0.10	-0.06	0.11	0.10	0.11	-0.02
Culture-Specific							
Simpatía	**0.20**	-0.01	0.11	-0.06	-0.09	**0.14**	-0.08
Relationships	**0.15**	0.11	**0.19**	-0.05	**-0.18**	0.04	-0.04

Note: Correlations are based on regression factor scores; Agree. = Agreeableness; Conscient. = Conscientiousness; Emot. = Emotional; N. = Negative; P. = Positive; Unconvent. = Unconventionality; Val. = Valence

Appendix E: Mean Differences on Intracultural Dimensions (Ethnicity and University)

Table 16: Mean Differences on U.S. Intracultural Dimensions According to Ethnicity

	Non-Hispanic White		Hispanic		Asian		F-value	p-value
	N= 330		N = 95		N = 85			
Dimension	*Mean*	*SD*	*Mean*	*SD*	*Mean*	*SD*		
Values	2.92	1.71	3.06	1.94	2.85	2.08	0.31	0.73
Sociability	2.57	1.46	1.93	1.28	2.31	1.30	7.84	0.00
Fun	1.08	1.01	0.94	0.89	0.94	0.94	1.25	0.29
Existentialism	1.33	1.14	1.40	1.10	1.51	1.26	0.84	0.43
Negativism	1.35	1.05	1.59	1.37	1.53	1.33	1.99	0.14
Activities	1.14	1.05	1.07	1.08	1.21	1.23	0.36	0.70
Positivism	1.22	1.13	1.15	0.99	1.07	1.01	0.62	0.54
College Experience	0.79	0.82	0.77	0.89	0.79	0.75	0.02	0.98

Table 17: Mean Differences on Mexican Intracultural Dimensions According to University of Study

	UNAM		UDLA		UAP		F-value	p-value
	N= 174		N = 119		N = 84			
Dimension	*Mean*	*SD*	*Mean*	*SD*	*Mean*	*SD*		
Relationships	2.02	1.37	2.26	1.42	1.76	1.19	3.44	0.03
Hobbies	0.86	1.02	0.81	0.89	0.82	0.67	0.10	0.90
Sociability	3.55	1.76	3.81	1.74	3.49	1.47	1.16	0.31
Values	1.64	1.18	1.71	0.97	1.77	1.18	0.38	0.68
Emotional	1.15	0.89	1.13	0.90	1.11	0.79	0.06	0.94
Agreeableness	1.27	1.33	1.12	1.11	1.04	1.11	1.10	0.33

Note: UNAM= Universidad Nacional Autónoma de México. This university is the largest public university in Mexico and it is in Mexico City. UDLA = Universidad de las Américas. This university is private and it is in Puebla, Mexico. UAP = Universidad Autónoma de Puebla. This university is public and it is in Puebla, Mexico.

Appendix F: Mean Differences on Big Five Dimensions (Ethnicity and University)

Table 18: Mean Differences on Big Five Dimensions According to Ethnicity in the U.S.

	Non-Hispanic White		Hispanic		Asian		F-value	p-value
	N= 330		N = 95		N = 85			
Dimension	*Mean*	*SD*	*Mean*	*SD*	*Mean*	*SD*		
Extraversion	3.46	0.84	3.45	0.81	3.30	0.89	1.33	0.27
Agreeableness	3.82	0.64	3.90	0.73	3.76	0.56	1.00	0.37
Conscientiousness	3.59	0.67	3.47	0.62	3.43	0.60	2.79	0.06
Emotional Stability	3.16	0.82	3.19	0.87	3.07	0.80	0.57	0.57
Openness	3.67	0.66	3.77	0.56	3.59	0.65	1.92	0.15

Table 19: Mean Differences on Big Five Dimensions According to University in Mexico

	UNAM		UDLA		UAP		F-value	p-value
	N= 174		N = 119		N = 84			
Dimension	*Mean*	*SD*	*Mean*	*SD*	*Mean*	*SD*		
Extraversion	3.43	0.91	3.60	0.78	3.56	0.72	1.78	0.17
Agreeableness	3.56	0.64	3.68	0.55	3.76	0.57	3.24	0.04
Conscientiousness	3.53	0.65	3.50	0.68	3.55	0.71	0.13	0.88
Emotional Stability	2.76	0.86	2.81	0.84	2.95	0.79	1.33	0.27
Openness	3.96	0.60	3.90	0.57	3.94	0.65	0.34	0.71

Note: UNAM= Universidad Nacional Autónoma de México. This university is the largest public university in Mexico and it is in Mexico City. UDLA = Universidad de las Américas. This university is private and it is in Puebla, Mexico. UAP = Universidad Autónoma de Puebla. This university is public and it is in Puebla, Mexico.

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Vita

Nairán Ramírez-Esparza was born March 28, 1973 in Mexico City, Mexico to Juan José Ramírez-Medina and Esperanza Esparza-Canalizo and older sister of Dyana Ramírez and Viviana Ramírez. Nairán grew up mostly in Puebla, Mexico and attended the American School. After completing her bachelor's degree in Psychology from the University of the Americas in Puebla, Nairán, earned her Masters degree in Social Psychology from the National Autonomous University of Mexico. In August of 2001, she entered The University of Texas at Austin, having been awarded a Fulbright scholarship. A year later she married Adrián García-Sierra. Under the guidance of James W. Pennebaker and Samuel D. Gosling, Nairán was able to publish papers in English and Spanish-speaking journals. Upon graduation, she will be assuming a post-doctoral position at the University of Washington, Seattle.

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